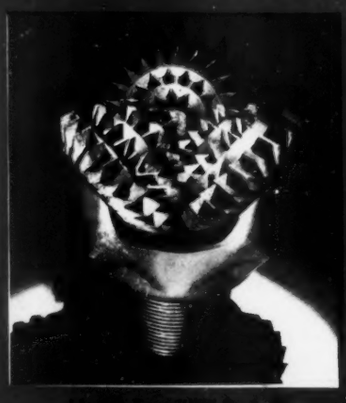
NOV 5 1937

OIL AND GAS JOURNAL

VEMBER 4
1937

IT'S THE *Teeth* THAT COUNT !

Hard formations encountered in Rotary Drilling include dolomite, dolomitic lime rocks, slate, hard shales, and the like. Due to high compressive strength and toughness of these formations, cone teeth must be made stronger to prevent breakage, and the space between teeth less than would be desirable for softer formations. Type "W" is the general classification for Tri-Cones designed for such formations. Where the formations are hard and only slightly abrasive, the "WS" Tri-Cone is preferred. The "OWS" Tri-Cone has more action on bottom than the "W" or "WS" and is designed for combinations of hard rocks interstratified with waxy tough shale beds. Regular "W" is preferred when formations are considerably abrasive.



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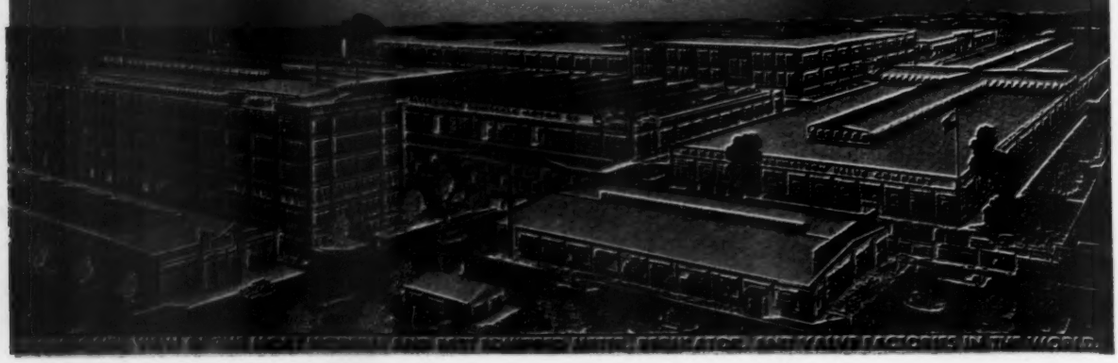

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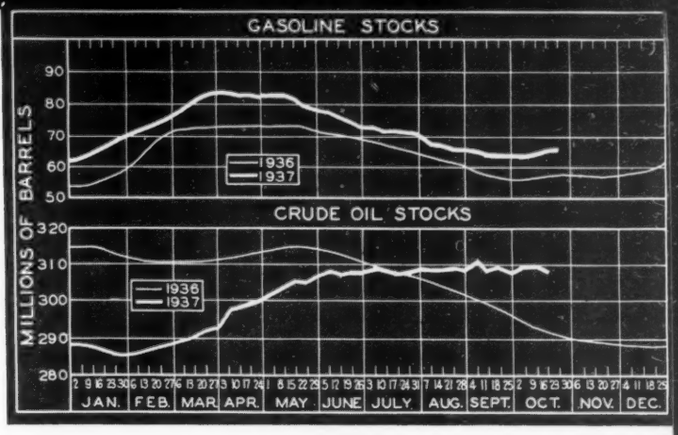
GASOLINE ANTIOXIDANTS



Lower Fuel and Gasoline in East

CHANGES in prices for refinery products continue to overshadow in importance other developments in the industry. The first of the week Bunker C fuel oil prices were reduced 10 cents per barrel along the Atlantic Seaboard, and gasoline tankcar and tank-wagon prices were reduced one-half cent at most points in New York and the New England states.

CRUDE PRODUCTION *3,616,992 barrels daily average—down 5,806 barrels.*

CRUDE STOCKS *307,897,000 barrels as of October 16—down 1,112,000 barrels.*

GASOLINE STOCKS *66,554,000 barrels as of October 23—up 794,000 barrels.*

REFINERY RUNS *3,380,000 barrels daily week ending October 23—unchanged.*

Both these price adjustments are important, the lower gasoline quotation affecting approximately 15 per cent of the domestic gasoline consumption. The Bunker C reduction applies to the largest residual fuel market in this country. In some cases the new fuel prices will mean lower refinery realizations on a production which constitutes from 30 to 40 per cent of the total yields of the plants. The gasoline price change indicates that major sellers in the East could no longer maintain the price increases which were made effective during mid-summer. Mid-Continent gasoline tankcar prices also declined during the week.

In the case of residual fuels, the price decline ends a long period of advancing quotations at coastal points, the increases being due to the fact that the current supplies were not keeping pace with the large gains in marine and industrial demands. These demands have declined in recent weeks due to the reduction in industrial consumption. The new price of $1.25 per barrel is still favorable when compared with the quotations of the depression period when they reached a low of 65 cents per barrel.

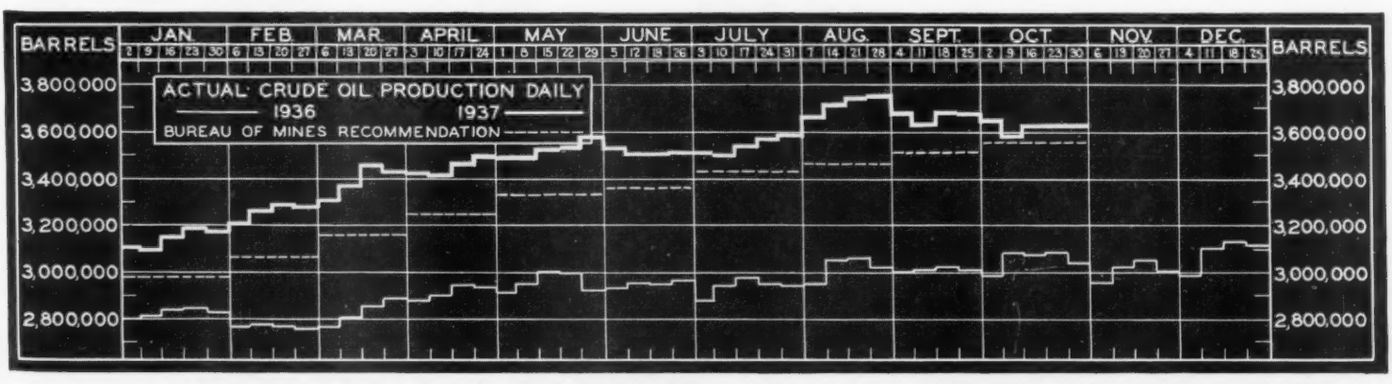
Most observers continue to be encouraged in regard to developments in the crude oil end of the oil industry's operations and feel confident that this improvement will be reflected shortly in markets for finished products. The point is stressed that for the country as a whole crude stocks are practically at the same levels that prevailed three months ago. During this period stocks in the Mid-Continent have increased about 3,000,000 barrels which have been offset by declines in California and the Rocky Mountain areas.

Reports the first of the week indicated that production in Kansas and Oklahoma, the first part of November at least, will be under the Bureau of Mines recommendations, a development which should end additions to crude stocks in those states. The Texas Railroad Commission last week increased its November allowable by 35,272 barrels daily, but the new schedule is still below the government's recommendation. Due to lower gasoline prices there has been some curtailment of crude runs at a few refineries.

Daily Average Production for Week

	Oct. 30 1937	Bur. Mines Oct. est.	Oct. state allowables	Oct. 23 1937
Oklahoma City	141,150	.....	.....	141,050
Fitts	79,250	.....	.....	79,325
Remainder of state	366,325	.....	.....	369,400
Total Oklahoma	586,725	629,200	600,000	589,775
East Texas	485,947	.....	.....	486,000
West Texas	217,350	.....	.....	215,697
North Central Texas	107,898	.....	.....	109,400
Texas Panhandle	79,000	.....	.....	79,000
East Central Texas	110,200	.....	.....	109,197
Gulf Coast Texas	350,000	.....	.....	351,048
Southwest Texas	123,397	.....	.....	120,100
Total Texas	1,473,792	1,430,300	1,416,789	1,470,442
North Louisiana	76,265	.....	.....	73,900
Gulf Coast—Louisiana	167,750	.....	.....	170,800
Total Louisiana	244,015	254,600	266,700	244,700
California	700,400	660,000	660,000	704,750
Kansas	185,600	199,900	193,800	185,875
Arkansas	48,641	36,000	.....	46,955
Eastern fields	135,200	128,800	.....	137,600
Michigan	54,319	43,500	.....	54,261
New Mexico	104,030	106,400	104,000	104,060
Rocky Mountain area	84,270	79,400	.....	84,380
Total United States	3,616,992	3,568,100	.....	3,622,798

Decrease, 5,806 bbls. daily.



SPARKS FROM THE NEWS

TROUBLE MAKER

A per well allowable in the new Arkansas side of Rodessa, five times greater than that in the older Texas and Louisiana divisions, may be the start of trouble in that major producing area.

UNSOLVED MYSTERY

The Madison testimony so far has not revealed why those whose gasoline was purchased—the principal beneficiaries of the stabilization program—were not involved in the alleged conspiracy.

ON THE PUMP

The first pumping unit to be used in the Kettleman Hills field of California is now being installed. After several years of natural flow this major producing area has started "on the pump" stage of development.

QUALITY BUYERS

This week the federal government agencies at Washington are opening bids on proposed construction of bombing planes, totaling $270,000,000. If and when built, these planes will consume all of the 100-octane gasoline made in this country.

IN LIMELIGHT

Guadalupe County, of Texas, returns to the limelight with a favorable wildcat development near Darst Creek field.

COMPARISON

The Illinois Basin activity is revealed in the data showing more than 200 completions this year compared to 34 for the same period in 1936.

MORE AND BETTER

Disclosures in engine design at the New York Automobile Show show that car manufacturers will continue to want more and better motor fuels.

READY TO GO

The research head of the largest car manufacturer says that engines burning diesel fuels have been perfected to the point where they are ready to go places.

THE BIG STAKE

Original owners of the Mid-Co. Petroleum Company and the late Colonel E. A. Humphrey overlooked a rich stake when they didn't drill deeper in the Billings, Okla., field where they had shallow production. An Oklahoma company has brought in a 10,000-barrel well from the deeper pay.

INCONGRUITY

To some the presentation of an 8-day clock to a geologist who thinks of time in millions of years was somewhat incongruous. That happened last week at the Dallas meeting of the Mid-Continent Oil and Gas Association.

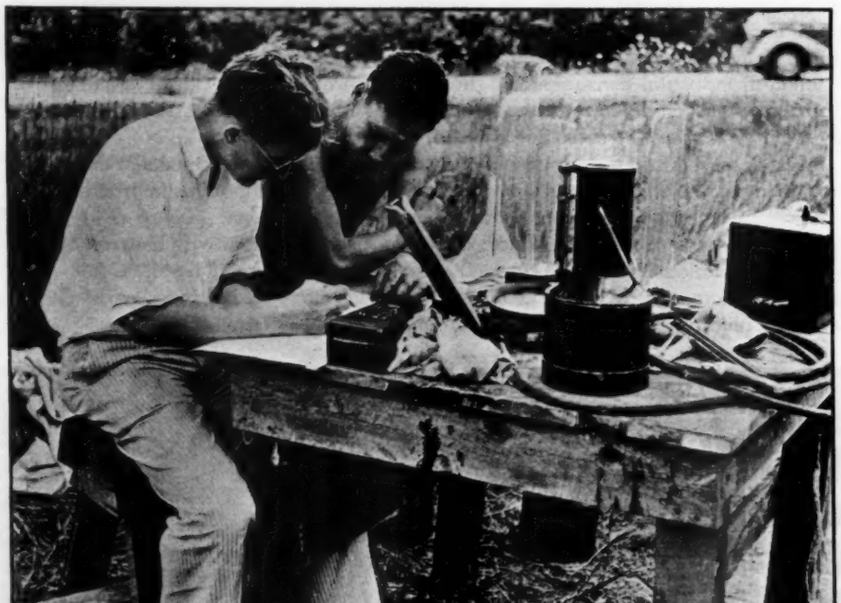
KANSAS IN STRIDE

Kansas wildcatters were in their stride the past week, with three new pool openers showing in Barton County, one each in McPherson, Sedgwick and Stafford counties, and a gas pool opener in Rice County.

STILL AHEAD

Reports at the Dallas meeting last week showed that Texas operators are establishing remarkable records in their operations. The tax collectors, unfortunately, are still in the lead.

FIRST HAND INFORMATION



Engineers of Atlantic Refining Co. along highway checking records of test cars which travel thousands of miles determining performance of motor fuels of varying specifications under varying operating conditions

1938?

Improved Gasoline and Oil; Diesel Fuel Demand to Expand

By H. STANLEY NORMAN

NEW YORK, Nov. 2.—More powerful engines in several of the new model cars and trucks will continue to emphasize the need of motor fuels of high antiknock rating and motor oils capable of withstanding more severe operating conditions.

While most of the car manufacturers who are presenting their 1938 cars at the New York Automobile Show have not changed the compression ratios of their engines, several have increased the ratios, and the average compression ratios of representative cars has increased to 6.31. This compares with 6.26 for the 1937 cars, 6.12 for 1936 and 4.96 for 1931. These compression ratios are a measure of the antiknock requirements in gasoline and the steady increase in recent years has been paralleled by a steady gain in octane ratings of motor fuels.

Compression Ratios

The increases in compression ratios of the 1938 cars include Buick, Cadillac V-8, Lafayette, Nash and Packard. Economy in motor fuel consumption as well as more power are claimed for the 1938 engines of these cars. In contrast with the increases of other makes, the compression ratio of the 1938 Studebaker President has been reduced from 6.50 in 1937 to 6.00 to 1 in the 1938 model.

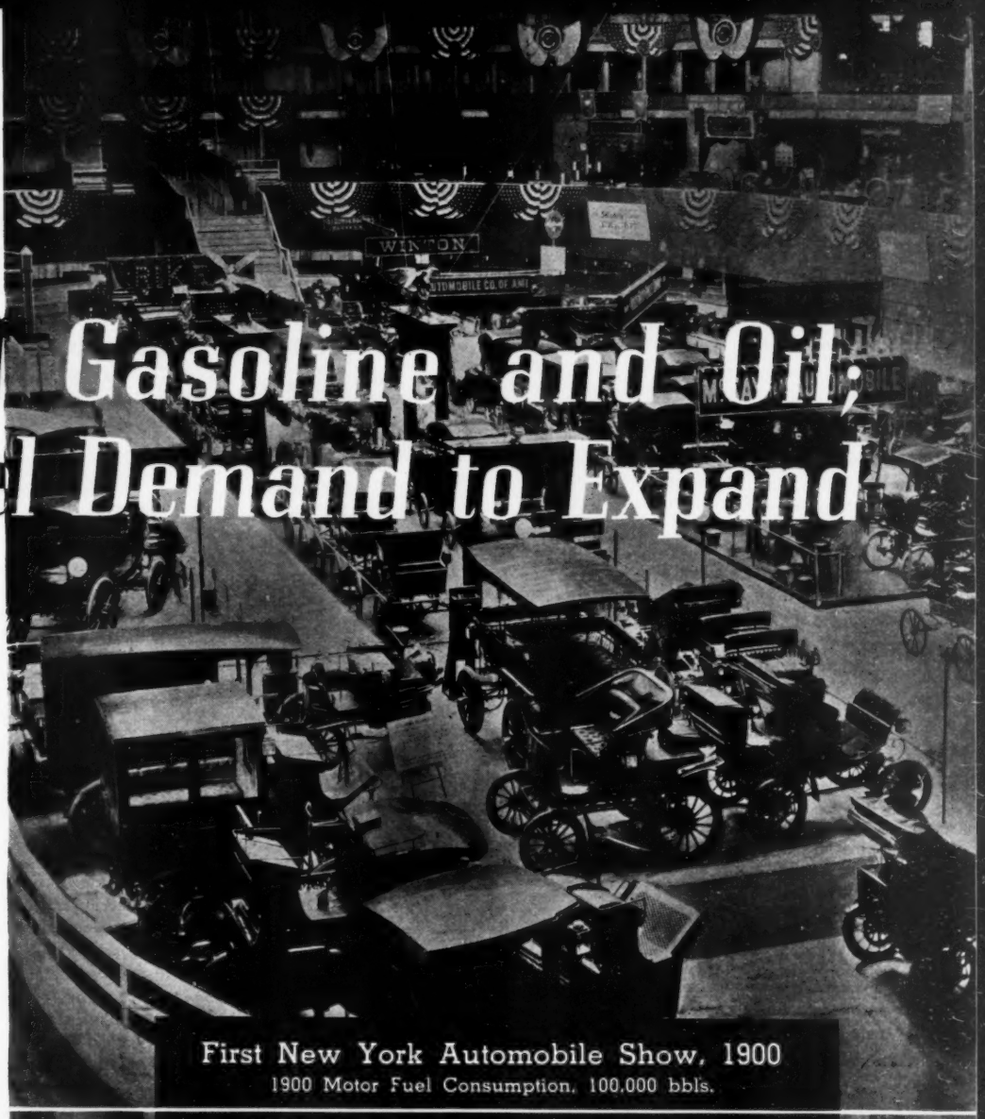
While not a part of the automobile show at the Grand Palace statements made last week by manufacturers and users of diesel motor power vie in interest with the developments in gasoline engine design. At a luncheon commemorating the fortieth anniversary of the diesel engine, Charles F. Kettering, vice-president of the General Motors Corp. in charge of research, predicted that the diesel engine eventually will "produce power for very much less than anybody today thinks it can be done." Ralph Budd, president of the Burlington lines, said the modern diesel locomotives average twice the service of steam locomotives and at a large saving in costs which should "prepare us for almost anything."

Diesels for Cars

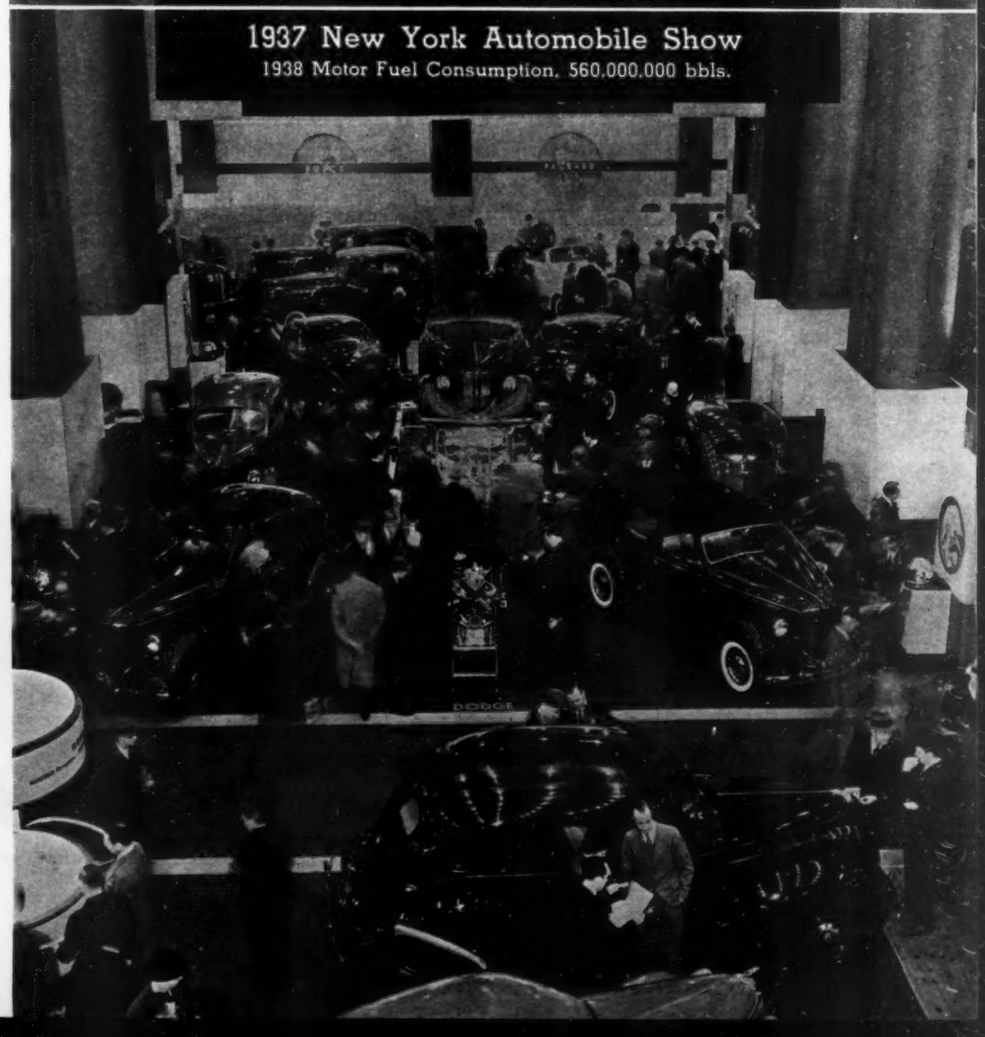
"I have been asked," said Mr. Kettering, "When we are going to put diesels in automobiles. Well, when we get them good enough. If we keep on making progress the way we have in the past four or five years, some day that might happen. For commercial vehicles, yes—they have a big field and will come very rapidly.

"What of the future of this type of power development? I haven't the slightest idea. We have been making enormous numbers of automobiles for years. We have built up to the present time about 40 millions of automobile engines and we are still improving them every year. In terms of horsepower we are just starting on the diesel engine. Last year we made 250 millions of horsepower in automobiles and I think we made about 2 millions of horsepower of diesel engines.

"So we are making one per cent of the horsepower today of diesels that we have in gasoline. That leaves the whole future ahead. You can look ahead with a great



First New York Automobile Show, 1900
1900 Motor Fuel Consumption, 100,000 bbls.



1937 New York Automobile Show
1938 Motor Fuel Consumption, 560,000,000 bbls.

deal of interest to the future development of this type of power."

President Budd's address was the first comprehensive report on diesel locomotive operation by a major railroad. The Burlington was one of the first railroads to use diesel locomotives on a large scale in mainline high-speed passenger service, as well as in its switching service.

Mr. Budd referred to diesel locomotives as a "natural" in switching service, and reported that in passenger train operation they not only materially cut the cost of operation, but "what was more important, they greatly increased patronage." He predicted the coming use of diesels in mainline heavy freight service.

"In the middlewest," Mr. Budd said, "several diesels trains are being operated distances up to 1,000 miles daily, at an average speed upwards of 65 miles an hour. The Burlington operates four such trains. Diesels were chosen for these difficult schedules because they can make the fast time without running at excessive speeds. They weigh much less and are easy on tracks. Including fuel and water, the load that has to be transported in the locomotive itself is reduced by 40 per cent or more.

"On the Burlington's Chicago-Denver Zephyrs that means eliminating 300,000 ton miles daily. Furthermore as regards uniform speed, one of these trains on a thousand-mile run stands still for servicing en route about forty minutes less than a conventional train.

"The cost per train mile for locomotive maintenance, locomotive fuel and lubricating oil on the four smaller Zephyrs (3 and 4 cars each) has been an average of 4.84 cents. The cost per locomotive mile for steam drawn trains of the same carrying capacity has been 28.98 cents. For the larger trains comparisons are more difficult because we have no similar steam schedules.

"The first cost of a diesel, of course, is much more than that of a steam locomotive of corresponding power, but it seems conservative to say that one diesel can make as many service miles, year in and year out, as two steam locomotives. The extent to which an engine can carry out its assignment is of great importance. The 'on time' performance of diesels has been 96 per cent perfect, as compared with about 70 per cent for all locomotives.

"According to the Association of American Railroads, the railroad's water bill is $50,000,000 a year. The diesel, of course, minimizes this. Diesels have to take water and fuel only once in four days, and can be kept in continuous operation, and switching locomotives work practically continuously, and I mean this literally."

Hardly without exception, automobile manufacturers have devoted their main efforts to improving appearance, passenger comfort and ease of operation in new 1938 models. The field covered by the general term "stream-lining" has received much attention. Such refinements in appearance as blending headlights and stop-lights with general contour of the fenders or body, more attractive radiator grills and other exterior appointments have received full attention of designers. Hoods have been built more nearly vertical and radiator grill bars are practically all horizontal giving the effect of longer body lines.

From a standpoint of public interest, the automatic, semiautomatic or "finger tip" gear shifting facilities built into some of the new models as standard equipment and offered in others at the purchaser's option would appear to be the year's most important development. The change from the conventional gear shift lever located in the center of the front floor involves no new problems in lubrication, however, and falls in the bracket of simplified operation.

There is every indication that gasoline demand will increase between 30,000,000 and 40,000,000 bbls. in 1938, but even the top figure may prove too conservative if manufacturers' calculations of another 5,000,000-car year are realized.

Trend in Compression Ratios in Leading Cars for 8 Years

	1938		1937		1936						
Car Model, 1938—	Stand.	Option.	Stand.	Option.	Stand.	Option.	1935	1934	1933	1932	1931
AUBURN	*6.20	.....	6.20	.....	6.20	.....	6.20	6.20	5.26	5.26	.....
BUICK, 60	6.35	.....	5.75	.....	5.45	.....	5.25	5.25	5.25	5.09	4.75
CADILLAC, V-8, 65	6.25	.....	6.00	5.65	6.00	5.65	6.00	6.25	5.60	5.30	.....
CHEVROLET, Master 6	6.25	.....	6.25	.....	6.00	.....	5.45	5.45	5.20	5.20	5.02
CHRYSLER, 6, 8	6.70	7.10, 6.50, 7.40	6.50	7.45	6.20	7.00	6.20	5.20	5.20	5.20	.....
DODGE, 6	6.50	.....	6.50	.....	6.50	.....	6.50	5.50	5.50	5.35	5.20
DE SOTO, 6	6.50	7.00	6.50	7.00	6.00	7.00	6.00	6.20	5.35	5.35	.....
FORD, V-8, 60	6.75	.....	6.75	.....	.....	.....	.....	.....	.....	.....	.....
FORD, V-8, 85	6.12	.....	6.30	.....	6.30	.....	6.30	6.33	6.33	5.51	4.22
GRAHAM, 6, 120	6.70	.....	6.70	.....	6.80	.....	5.80	6.50	6.50	6.50	.....
HUDSON, 6, 8	6.25	7.00	6.25	7.00	6.00	7.00	6.00	5.80	5.80	5.80	5.80
HUPMOBILE, 6	5.75	.....	5.80	.....	5.80	.....	5.75	5.75	5.75	5.40	.....
LAFAYETTE, 400	5.83	.....	5.61	5.88	5.54	5.73	5.54	5.30	.....	.....	.....
NASH, 8	6.00	.....	5.64	.....	5.25	.....	5.25	5.25	5.10	5.10	5.00
OLDSMOBILE, 8	6.20	.....	6.20	.....	6.20	.....	6.20	5.70	5.50	5.90	.....
PACKARD, 6	6.52	7.05	6.30	6.75	.....	.....	.....	.....	.....	.....	.....
PACKARD, Super 8	6.50	7.05	6.50	.....	6.50	.....	6.50	6.00	6.00	6.00	.....
PLYMOUTH, 6	6.70	7.00	6.70	.....	6.70	.....	6.70	5.80	5.50	4.90	4.60
PONTIAC, 6, 8	6.20	.....	6.20	.....	6.20	.....	6.20	6.20	5.70	5.20	4.90
STUDEBAKER, Pres. 8	6.00	.....	6.50	.....	6.50	.....	6.00	6.30	5.50	5.20	5.20
Average	6.31	.....	6.26	.....	6.12	.....	5.99	5.83	5.59	5.50	4.96

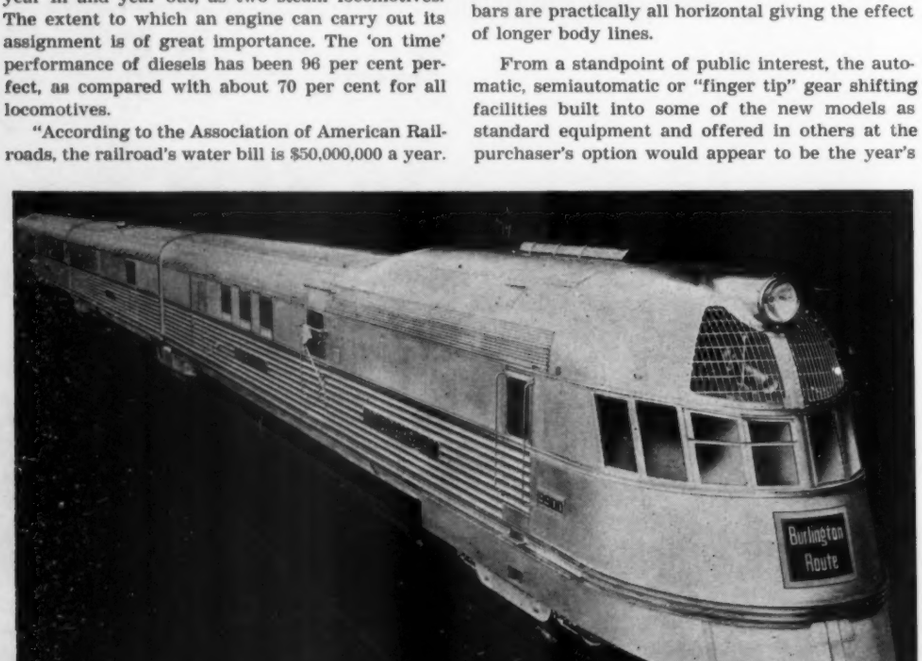
Note: So far as possible cars listed for 1937-1931 were comparable as to model with these shown for 1938.
*This compression ratio figure is repeated since 1938 Auburn models have not been introduced.

Export Sales

The petroleum industry is in the last quarter of its greatest export year and the prospects for motor fuel demand in 1938 are dependent to some extent on continuation of that trade. It is an interesting parallel to note that automobile exports this year are approximately 24 per cent above last year and that petroleum shipments abroad are up about 25 per cent. There is every reason to expect automobile exports to continue upward in 1938 due to reciprocal trade agreements with this country and 16 foreign nations with still others under consideration. The trade agreements have aided materially in boosting automobile exports and it is significant to note that foreign buying of American cars has increased from year to year even through the depression. The expansion of automobile ownership in foreign countries is undoubtedly a factor contributing to the upward curve of petroleum exports.

Truck Sales

Record sales and registrations of motor trucks in this country are factors contributing extensively to record gasoline demand. Retail sales of trucks in the United States will total 928,000 units by end of the year, the American Automobile Manufacturers Association estimates, setting an all-time record. The rapidly expanding consumption by commercial vehicles in this country probably is the most important factor in over-all requirements. It is estimated that 4,400,000 motor trucks are registered in this country or will be registered by the end of the year. The commercial equipment user was not overlooked in the automotive industry's presentation of new models at the New York show. The developments in motor trucks followed much the same lines as in the passenger cars with emphasis placed on appearance, comfort of cabs and ease of operation.



Diesel-fueled trains have passed experimental stage. Large savings in operating costs point to expanding market

Kiowas' Income From Petroleum on Ascending Scale

By DAL DALRYMPLE

A few years ago the Indians of southwestern Oklahoma may have seen in oil only the axle grease to lubricate their wagon wheels. but today many Kiowas, Comanches, Apaches and Wichitas look to the oil industry as their principal source of income. More than $1,500,000 have been paid the plains Indians as bonuses and rentals for their lands since 1929 and the annual payments have increased in each of the past three years. The total amount received by these Indians the past fiscal year was the highest since the halcyon days of the Burkburnett boom, when their lands in the Red River area were in great demand.

The lease sales held at the Kiowa Indian Agency in Anadarko have had no such fanfare or spectacular staging characteristic of the Osage auctions at Pawhuska, nor are they held as regularly or include as much proven oil and gas acreage as the sales of the Five Civilized Tribes at Muskogee. Yet, Kiowa sales have been growing in importance in recent years and, as Oklahoma oil men look more and more to the southwestern part of the state for their next major strike, the lands of the plains Indians may be expected to pay the owners more millions in the future.

The allotted Indian lands of the Kiowas and associated tribes which are subject to lease for oil and gas exploration total nearly 500,000 acres. These lands are divided among southwestern Oklahoma counties, as follows: Caddo, 192,653.72 acres; Comanche, 109,044.40 acres; Cotton, 67,-985.48 acres; Kiowa, 68,539.25 acres; Tillman, 27,-752.56 acres; Washita, 865.60 acres; that part of Canadian County south of the Canadian River, 4,-012.80 acres; Grady, west of the ninety-eighth meridian, 6,828.92 acres; Jefferson, west of the ninety-eighth meridian, 940 acres; and Stephens, west of ninety-eighth meridian, 5,114.88 acres. These figures, obtained from the records of the agency at Anadarko, total 483,737.61 acres.

During the fiscal year ending June 30, 1937, a total of 473 Kiowa tracts including 62,-719.98 acres were leased, according to the annual report of W. B. McCown, superintendent of the Kiowa agency. This brought the amount of Kiowa land under lease at the end of the year to 109,847.96 acres, leaving the great bulk of southwestern Oklahoma Indian lands unleased.

The following statistics, taken from the annual report, show how Kiowas, Comanches, Apaches and Wichitas benefitted from the oil activity in their part of Oklahoma during 1936-37:

Gross amount of oil produced during the year from Kiowa lands, 40,990.22 bbls.; gas production, 105,796,000 cubic feet; casinghead gas production 148,790 cubic feet.

Bonus received from leases, $219,774.92.

Royalty from oil, $5,585.68.

Advance royalty on old leases, $23,742.81.

Royalty from gas, $849.77.

Casinghead gas royalty from two wells in Tillman County, $0.81.

Annual rentals, $126,497.91.

Total income for the year, $376,451.70, the highest amount received from Kiowa lands since the excitement at Burkburnett in 1922.

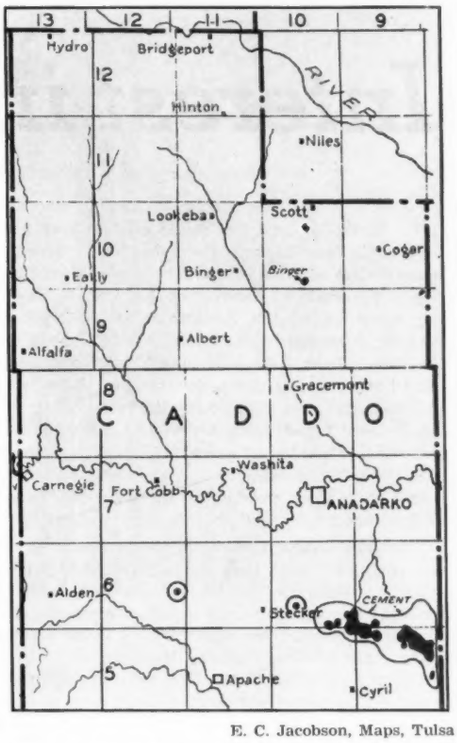
There were 25 producing oil wells on Kiowa lands at the end of the year, located in the Cement and Binger areas of Caddo County and the Walters pool of Cotton County; and 9 producing gas wells, 3 at Walters and 6 in the Chickasha pool of Grady County—insignificant in view of future prospects.

The Biggest Sale

The biggest sale of the past year was held January 20, 1937, when leases brought $105,961.96, as a result of a wildcat play in Kiowa and Comanche counties. Sales held since the annual report was filed did not equal the January 20 total. Amounts received from Kiowa sales of the past eight years were as follows:

1929-30	$233,911.05
1930-31	299,937.27
1931-32	127,596.41
1932-33	103,535.12
1933-34	94,540.92
1934-35	121,849.00
1935-36	160,021.18
1936-37	376,451.70
Total	$1,517,842.65

Leasing of Kiowa lands began in 1914, but records of those early years were not available to show how much money the Indians had received from the oil industry for their lands over the 23-year period. The first lease of record in the Anadarko agency was No. 71, covering the NE quarter of section 21-1s-9w, in the Walters area, and held by Magnolia Petroleum Co. This lease was effective November 29, 1915, and produced oil until 1931.

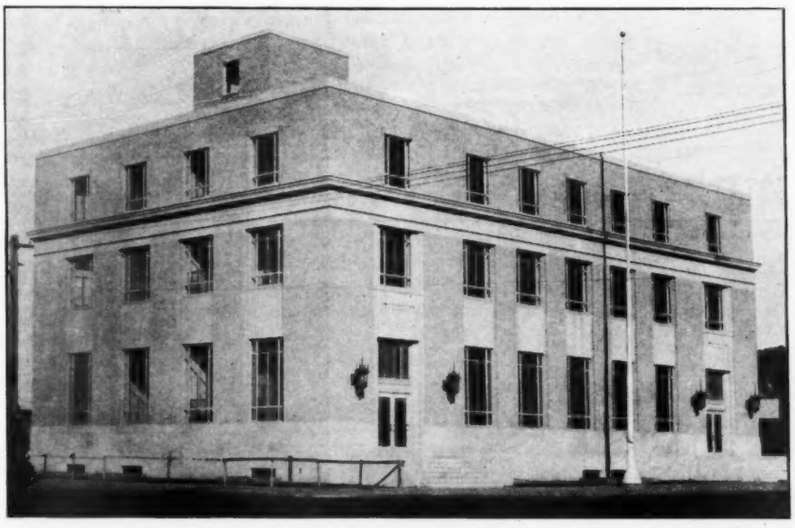


E. C. Jacobson, Maps, Tulsa

Nearly 200,000 acres of Indian lands in Caddo County are subject to lease for oil and gas. Geologists predict a major pool will be found in this area

Major oil companies have been the principal lessees of Kiowa lands in past years, but smaller companies and independent buyers have shown a growing interest in this acreage in recent years. Three major companies, Indian Territory Illuminating Oil Co., Gulf Oil Corp. and Magnolia Petroleum Co., hold 21,000 acres in leases in Tillman, Cotton and Caddo counties, and other majors have considerable holdings in the 10 counties where Kiowa lands are located. A considerable number of the leases in the West Cement area of Caddo County expire within the next two years with an increase in drilling in the near future.

Sales are held at six- to eight-week intervals, or as often as requests for leases justify. Sealed bids are presented and officials of the U. S. Geological Survey pass on the adequacy of the bonus bids before awards are made by Superintendent McCown. Ernest C. Arnold, district engineer for the survey at Oklahoma City, or Edgar M. Pilkington, associate engineer, pass on the bids.



New federal building and Kiowa Indian Agency at Anadarko, where Indian lease sales are held

Several Reasons for Revival of Interest in Arkansas

By MITCHELL TUCKER

The revival of interest and activity in the oil and gas fields of Arkansas has been rapid over the past few months, for several reasons. The addition of a great many million barrels to the crude oil reserves of that state through the extension of the Rodessa field into Miller County, Arkansas; the definite establishment of the Travis Peak, Lower Marine Trinity and Permian Lime zones as new objectives for wildcatters and deep explorers of presently known structures; the general trend toward reviving, reequipping and reconditioning old producing fields, together with the fact that no proration restrictions are invoked upon flush production in that state, have all combined to stimulate this development.

The accumulation of oil in the Arkansas portion of the Rodessa field (sometimes improperly called an "extension" of the Rodessa field) is now generally thought to be the result of a parallel or adjustment fault, lying about 3 or 4 miles north of the main Rodessa feature. Displacement of the principal fault is about 550 feet, and although the actual displacement of the adjustment fault to the north is not established, it is known to be considerably less.

Saturation is found in the oolitic lime zones in the Mitchell and Lower Gloyd formations, both of which respond readily to acidizing. Total saturated lime thicknesses of the two zones amount to from 12 to 20 feet, and initial productions have ranged from 30 to 100 bbls. per hour through restricted chokes. The Dees gas zone, prominent in the upper producing section in Rodessa proper, is not productive here, but considerable gas is present in upper sections of the Gloyd.

It is rather early to predict the productive area in this Miller County, Arkansas, field. Assuming what appears to be a conservative figure of 5,000 productive acres, and an equally conservative figure of 6,000 bbls. per acre for this thickness of saturation, a total reserve of 30,000,000 bbls. has been set up in Arkansas alone by the opening of this area. Possibly an equal amount of acreage or more will be productive on the same structure along the state line in Louisiana.

There are now 26 oil producers in the Arkansas portion of the Rodessa field, which averaged 544 bbls. per well per day last week, or a total daily production of 13,602 bbls. Seven wells are rigging up and 26 drilling there now, and the producing area was recently extended 2½ miles east of present production.

The Arkansas Board of Conservation set top allowable for Miller County, Rodessa, at 10,000 bbls. per day for November, with a gas limit factor of 2,000 feet to 1 bbl. of oil. No one well can receive an allowable greater than 400 bbls. per day.

The oil production opened from the Permian lime at Snow Hill about one year ago along the northern flank of Smackover did not add materially to the state's reserves, but did establish this zone as a possible producing horizon, and as a reliable reflecting zone for all subsequent seismograph work. No test in southern Arkansas is now considered complete without "seeing" the Permian.

Schuler Field

The Schuler field of Union County has established important reserves in three separate levels over the past few months. Lion Oil Refining Co.'s discovery well in the 5,600-foot sand in Upper Travis Peak (Trinity group) in April, 1937, was No. 1-A Edna Morgan, section 18-18-17. Although initial productions from this level were high, and have been rather well sustained after normal decline from flush flowing rates, this zone, or zones, proved to be extremely lenticular and irregular in occurrence. Eighteen wells were drilled to the 5,600-foot sand before decision was made by E. M. Jones and associates to drill a deep exploratory test. In their No. 1 Marine Oil Co., section 17-18-17, at a total depth of 7,616 feet, casing was perforated from 7,554 to 7,571 feet to open the second producing level in the basal Travis Peak. Initial production was 2,600 bbls. per day, and the flowing rate has been well sustained after declining from flush rates to the present average of about 1,000 bbls. per day.

Lion Oil Refining Co. followed by deepening No. 1-A Edna Morgan, discovery well in the 5,600-foot level. This well logged all the saturated section from which E. M. Jones No. 1 Marine Oil Co. is producing, but drilled to the present total depth of 7,688 feet in the top of the Permian (big lime) to open the third and deepest producing horizon at Schuler. On 12-hour test this well produced 342 bbls. of 63.1-degree gravity distillate through one-quarter inch tubing choke, casing pressure 2,000 pounds, tubing pressure 1,550 pounds. Open flow gas volume is estimated at about 75,000,000 feet. Eight other wells nearby are being rushed to the lower pay levels at Schuler at the present time.

Natural gas is in great demand at the local refineries and in the Smackover, El Dorado, East Field and other stripper pools nearby. The addition of a cheap fuel supply to the territory will add several years to the economic life of the old depleted pumping fields, and hence add materially to the recoverable oil reserves in Arkansas.

Buchner Field

The Buchner field of northwestern Columbia County has recently been added to the deep Permian lime fields of Southern Arkansas. Following seismograph exploration by Standard Oil Co. of Louisiana, its No. 1 J. P. McKean, SW section 8-16s-22w, was drilled. After penetrating the Permian only 5 feet, present total depth 7,204 feet, casing was set and testing begun. During present experimental testing of the well it is flowing 13 bbls. hourly through one-half inch tubing choke, 400 pounds casing pressure, gas-oil ratio 400 to 1, gravity 31.9 degrees, corrected. Operators may drill a few feet deeper in the Permian in an effort to increase its flow. Seismograph mapping indicates a broad structure at Buchner, and future developments are expected to add substantially to Arkansas' reserves.

Many deep opportunities for exploration on proven structures, and those mapped by

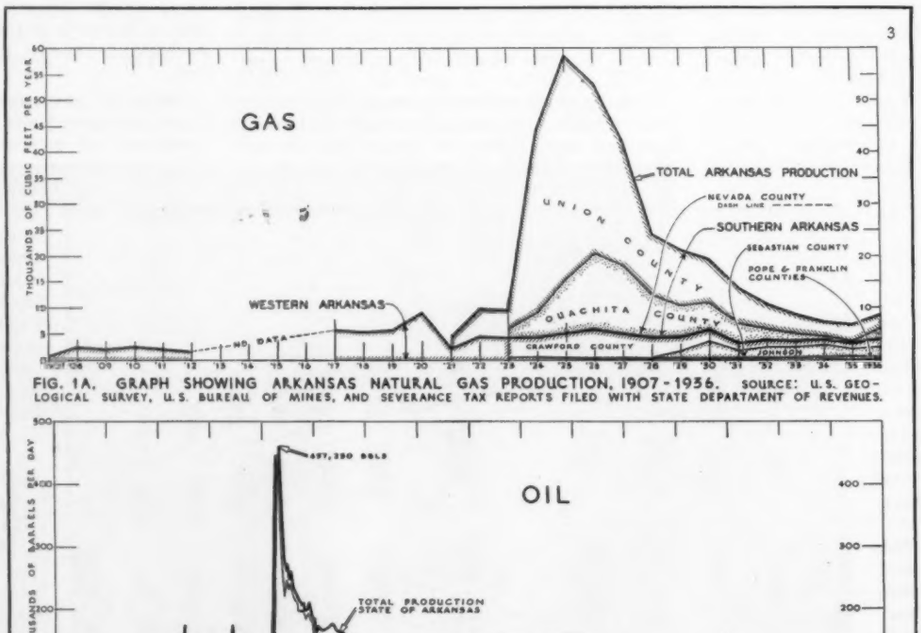


FIG. 1A. GRAPH SHOWING ARKANSAS NATURAL GAS PRODUCTION, 1907-1936. SOURCE: U.S. GEOLOGICAL SURVEY, U.S. BUREAU OF MINES, AND SEVERANCE TAX REPORTS FILED WITH STATE DEPARTMENT OF REVENUES.

FIG. 1B. GRAPH SHOWING DAILY AVERAGE PETROLEUM PRODUCTION STATE OF ARKANSAS AND SMACKOVER FIELD, 1921-1936. SOURCE AMERICAN PETROLEUM INSTITUTE

geophysical means, remain in southern Arkansas.

Old Fields Revived

The practice of replacing badly worn pumping equipment, recasing old holes, squeeze work to plug off bottom-water, stratigraph surveys of upper sands, clean-out work, plug backs, and other types of reviving and reconditioning work in the Smackover, El Dorado, Rainbow and other fields is becoming quite common now. Such activity a few years ago was unheard of. Results from this type of work, properly applied, will no doubt extend the economical producing life of all the fields, and add materially to their reserves.

There is such a demand for this type of crude oil in the local refineries of that area that often the economic limit of pumping costs is not figured on the basis of posted crude price, but upon the value of the by-products of the crude to the refiner. Many wells are being produced in Smackover and other fields which consistently exhibit a lifting cost of around $2 or more per barrel, but their abandonment is not considered.

In order to bring up to date the general data on all Arkansas drilling, and to serve as an aide to prospectors in that state, the Arkansas Geological Survey, under the direction of State Geologist George C. Branner, with the assistance of Works Progress Administration personnel, has recently published their Information Circular No. 10. Together with much other valuable statistics, tables, maps, etc., the circular gives information on all wells drilled in the state outside of the proven areas in Union, Ouachita, Columbia and Nevada counties.

Three illustrations from this work are shown here. Figure No. 1-A shows the production of natural gas in that state from 1907 to 1936, by counties. Figure No. 1-B sets out annual productions from 1921 to 1937, and compares it with production from the Smackover field. Figure No. 6 shows the number of oil wells, gas wells and dry holes drilled in Arkansas from 1902 to 1936, inclusive.

State Geologist's View

In his letter of transmittal to Governor Carl E. Bailey of Arkansas, accompanying this circular, State Geologist George C. Branner summarizes its contents as follows:

"It is of interest to consider the immense sums which have been expended for the drilling of oil and gas wells and dry holes in Arkansas. According to our records, the total number of wells drilled to December 31, 1936, is 8,909. Assuming the average cost of drilling rotary wells in the lowland region of southern and eastern Arkansas, during the period prior to 1937, to be $21,000 and the average cost of drilling cable tool wells in the highland area of western Arkansas during that period, to be $11,000, the total amount expended for drilling is $181,659,000. The estimated value of all products extracted to December 31, 1936 (429,084,291 bbls. of petroleum, 340,221,456,000 feet of natural gas, and 321,828,955 gallons of natural gasoline) is $460,801,189. The amount spent for drilling the 8,909 wells referred to is, therefore, 39.4 per cent of the total value of the products extracted, or, otherwise stated, the value of the products is 2.53 times the drilling cost. The cost of drilling the 6,874 producing wells exclusively is $141,544,000. In this case, the cost of drilling is 30.7 per cent of the value of the products extracted, or otherwise stated, the value of the products is 3.25 times the drilling cost.

"The excess of the value of the products extracted over drilling cost for each dollar expended for drilling has been, therefore, $1.53 for all wells and $2.25 for producing wells. In the producing areas, this $2.25 must pay the cost of leasing, royalties, pumping, labor, taxes, administration, and other overhead. It becomes apparent, therefore, that the net profit which has accrued to the oil- and gas-producing industry in the proven fields to December 31, 1936, has not been great. This, of course, does not mean that many individuals and companies have not made a great deal of money from the sale of Arkansas oil and gas, but it does indicate the average risk involved in prospecting. The above figures do not take into consideration the value of extracted products which accrue after December 31, 1936, but these values will probably not exceed 15 per cent of the accrued values to that date in settled fields.

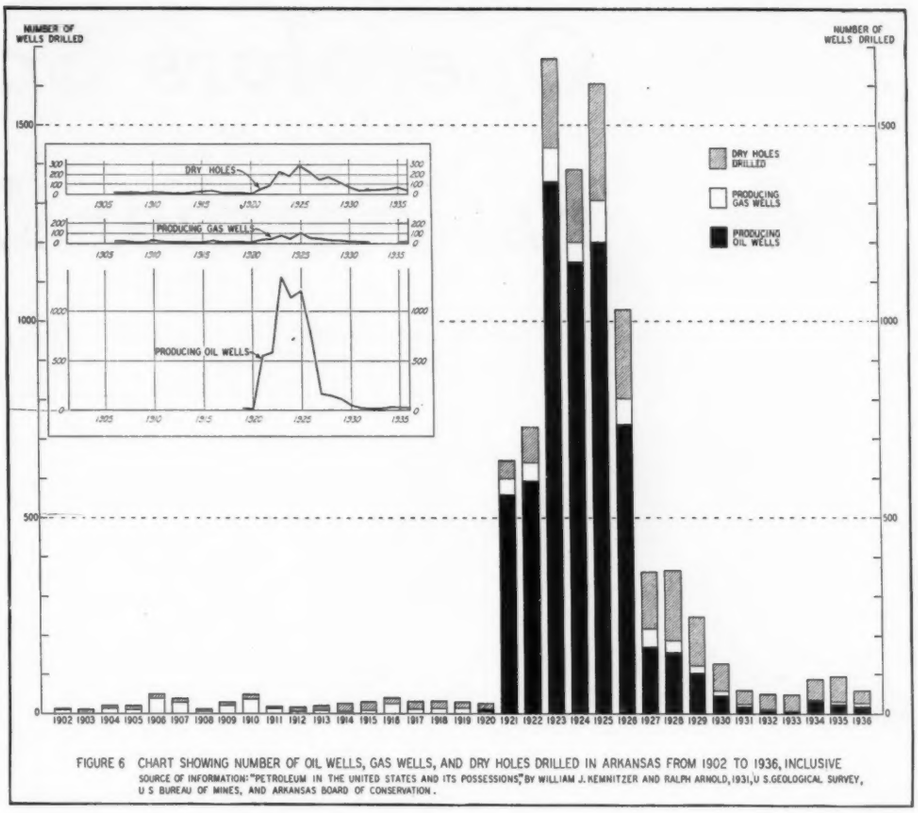


FIGURE 6 CHART SHOWING NUMBER OF OIL WELLS, GAS WELLS, AND DRY HOLES DRILLED IN ARKANSAS FROM 1902 TO 1936, INCLUSIVE
SOURCE OF INFORMATION: "PETROLEUM IN THE UNITED STATES AND ITS POSSESSIONS," BY WILLIAM J. KEMNITZER AND RALPH ARNOLD, 1931, U S GEOLOGICAL SURVEY, U S BUREAU OF MINES, AND ARKANSAS BOARD OF CONSERVATION.

Number of Tests

"It is of interest to estimate the number of tests which it has been necessary to drill to discover the oil- and gas-producing areas in Arkansas. If we consider that part of southern Arkansas in which the character and structure of the formations is apparently most favorable, which includes some 5,900 square miles in Miller, Lafayette, Columbia, Ouachita, Calhoun, Bradley, and Ashley counties, we find that of 986 tests drilled in this area (outside of the proven fields) 19 have discovered producing fields. Assuming that one well has been required to discover each field, the chance for the discovery of oil and gas in that area, up to the present time, has been as 19 is to 986, or as 1 is to 51.8. If we consider the 19 successful wells with reference to the total number of tests drilled in the Gulf Coastal plain of Arkansas, including 27,620 square miles, we find that the chance for discovery in that area has been as 19 is to 1,436, or as 1 is to 75.5.

"In eastern Arkansas, in the areas lying in the Arkansas Valley in which the character and structure of the formations appear to offer the greatest possibilities for the accumulation of gas in commercial quantities, and which includes about 7,250 square miles in Crawford, Franklin, Johnson, Pope, Van Buren, Cleburne, Sebastian, and Conway, and parts of Searcy, Independence, Logal, Yell, Faulkner, White and Scott counties, it has taken 131 tests to discover 15 gas fields. The chance for the discovery of gas in that area, therefor, up to the present time, has been as 15 is to 131, or as 1 is to 8.7. If we consider the 15 successful wells with reference to the total number of tests drilled in the interior highland area, including 25,715 square miles, we find that the chance for discovery in that area has been as 15 is to 234, or as 1 is to 15.6.

"From the above, we may conclude that the relative chances for the discovery of gas in commercial quantities in the preferred area of western Arkansas, and the discovery of oil and gas in commercial quantities in the preferred area of southern Arkansas, are as 8.7 is to 51.8 or as 1 is to 6. In other words, the chance of finding gas in commercial quantities in the preferred area of western Arkansas has been six times as great as of finding oil and gas in the preferred area in southern Arkansas."

Hearing on Allowable in the Arkansas Rodessa Field

EL DORADO, Ark., Nov. 1.—The allowable order of 10,000 bbls. daily in the Miller County portion of the Rodessa field, originally scheduled to go into effect Monday, was postponed at a meeting of the State Board of Conservation which called a public hearing November 12 of proponents and opponents of proration.

Last week the board announced the top allowable in the field would be 10,000 bbls., allocated to individual wells upon a 50 per cent bottom-hole pressure and acreage basis, with a 2,000 to 1 gas limit factor.

Following objections from organized land and royalty holders in the area, Governor Carl E. Bailey said: "I shall call the chairman of the board (O. C. Bailey of El Dorado) and request that the order be held in abeyance until these interested persons are given a chance to present their case." The call for the hearing resulted.

Texas Operators Sound Stern Against Further Increase in

By C. O. WILLSON

Jake L. Hamon, retiring president, and Charles P. McGaha, new president

DALLAS, Tex. Oct. 30.—Any further increase in the oil tax burden in Texas will inevitably work to the disadvantage of business interests of the entire state and bring about higher prices to the consumer of petroleum products.

This ultimatum was made known by oil operators attending the annual meeting of the Texas Division of the Mid-Continent Oil and Gas Association held here today and yesterday at the Baker hotel. In a program largely devoted to the tax problem, reports were presented showing increases in all types of taxation, with the additions of the past two years outstanding.

The thought of the committees which have made special studies of the trend toward higher taxes on oil operations, is that the industry can no longer absorb a large part of the increase through increased efficiency in operation and reduced profits as it has done in the past. The fact was also stressed that the multiple taxes of federal, state, county and other political units are reaching the point where operators will find it impossible to finance expansion programs and take the risk inherent in their business. Such a situation means curtailed supply and higher costs to consumers, it was explained.

The possible extension of governmental costs to include those incident to public utility operation was brought to the attention of the membership at the opening session yesterday by Matthew S. Sloan, St. Louis, chairman of the board and president of the Missouri-Kansas-Texas rail lines. In an address on the "Influence of Oil Upon the Economic Welfare of Texas," Mr. Sloan said, "If I were to hazard a word of advice to the oil and gas industry it would be to warn you to so conduct your business as to escape being designated as a public utility. Serious as your problems are, and difficult as may be their solution, they are at least free of the additional difficulties presented by the limitations commonly imposed on concerns which must have the consent of public regulatory bodies for substantially every important action taken."

J. D. Collett receives distinguished service award through Charles F. Roeser, president I.P.A.A.

Distinguished Service

The association on Friday following the report on the activities of the past year by George C. Gibbons, executive vice-president, made awards to two men who have given distinguished service to the oil business of Texas and the entire industry.

The awards were given to J. D. Collett, of Fort Worth, Tex., "Dean of the Texas Oil Industry" and Wallace E. Pratt, for many years a vice president of the Humble Oil & Refining Co., Houston. He was recently elected vice president and member of the executive committee of the Standard Oil Co. (New Jersey), of which the Humble company is a subsidiary. Each was presented with a desk clock.

The award to Mr. Collett was presented by Charles F. Roeser, president of the Independent Petroleum Association of America. Mr. Collett entered the oil business in 1901 with the discovery of Spindletop pool, and has been actively engaged as a producer since that time. He has served as president of the Texas Division of the Mid-Continent Oil and Gas Association and has been president of the general association since 1933. He took a prominent part in the activities of the industry under the NRA code and served as a member of the planning and coordination committee. He was active in the enactment of the conservation laws of Texas. He has been engaged in other work of the industry often serving as its spokesman. He is a member of the firm of O'Keefe and Collett, operating in West Texas and Southwest Texas.

The Pratt award was presented by Joe S. Bridwell, independent operator of Wichita Falls, Tex., who has known Mr. Pratt from the time he entered the oil industry in North Texas as a geologist, 20 years ago. After receiving mining and geological degrees from the University of Kansas, Mr. Pratt was engaged in geological work in Kansas for the state government and later for several years was employed by the Bureau of Science in the Philippine Islands.

Tribute to Pratt

He returned to the United States and was employed as a geologist by one of the major companies in 1916. Two years later he joined the Humble organization. His service with that organization covers a period in which the company became one of the largest oil producing companies with its exploratory operations largely directed by the recommendations of the company's geological department. It has been said that he did more "to sell geology to the industry" than any other single individual.

In addition to his executive duties he has given time to many of the general problems of the industry and has been active in its associational work. He is also the author of a large number of papers on all phases of oil geology and holds a fellowship in the Geological Society of America. He is a former president of the American Association of Petroleum Geologists.

In a brief talk, Mr. Pratt pointed out that up to this time approximately 32,000,000,000 barrels of crude oil have either been produced or have been discovered in the United States and are now part of the proven reserves. Outside the United States the total production plus proven reserves totals 22,000,000,000 barrels. The possible oil territory in the United States totals 2,500,000 square miles and 20,000,000 square miles outside the United States. These comparisons show that the production in the United States per unit of possible oil territory is 13 times greater than in the rest of the world. This situation, he explained, accounts for the fact that 90 per cent of the dry holes have been drilled in the United States.

H. B. FUQUA
president A.A.P.G.

New Officers

Charles P. McGaha was elected president to succeed Jake L. Hamon. He has been active in the work of the association and is also vice president and a member of the executive committee of the North Texas Oil and Gas Association. He is vice president of the Fain-McGaha Oil Corp. operating in North Texas, East Texas and Panhandle fields. He has

Warning Taxation

Jack Shannon, Snowden-McSweeney Co.; E. H. Eddleman; C. A. McClellan; Roy B. Jones, Panhandle Refining Co.; and J. S. Bridwell, Bridwell Oil Co., at the annual banquet

lived in Wichita Falls, Tex., the past 13 years.

Other officers elected on recommendation of the nominating committee report presented by R. S. McFarland, chairman, were: George C. Gibbons, reelected executive vice president; H. R. Cullen of Cullen and West, Houston, reelected vice president for the Gulf Coast District; Bryan W. Payne, Iowa-Payne Oil Company, Tyler, succeeded L. A. Grelling as vice president for the East Texas District; R. Stroube, of Stroube and Stroube, Corsicana, vice president of the East Central Texas District; R. L. Underwood, Underwood Drilling Company, Wichita Falls, reelected vice president of the North Texas District; E. J. Dunigan, Jr., Pampa, reelected vice president of the Panhandle District; Harry Adams, Midland, vice president of the West Texas District.

A. M. McCORKLE
vice president Stanolind Oil & Gas Co.

J. C. Hunter, who was vice president of the West Texas District last year, was named vice president of the West Central Texas District, succeeding Paul W. Pitzer, of Breckenridge. Al Buchanan, of San Antonio, was reelected vice president of the Southwest Texas District. Eugene McElvaney, Dallas, was renamed treasurer.

Directors of the association are: B. N. Honea, Fort Worth; W. P. Luce, Dallas; E. L. DeGolyer, Dallas; Leon Russ, Dallas; John J. O'Hern, Laredo; R. S. McFarland, Dallas; M. I. Flanagan, Longview; Paul W. Pitzer, Breckenridge; L. A. Grelling, Tyler; Lloyd Wheelock, Corsicana; R. A. King, Wichita Falls; Jake L. Hamon, Dallas; Lynn Boyd and M. R. Davis, Pampa; W. W. Holmes and W. W. Griffith, both of Amarillo.

In appreciation of his successful two years as president of the association, Jake L. Hamon of Dallas was presented with a wrist watch by the association.

Tax Committee Report

Oil production in Texas is now taxed an average rate of 8.5 cents per barrel with the rate ranging from 11 to 14.7 cents per barrel in 20 counties, J. C. Hunter, chairman of the Tax Committee, said in explaining the numerous taxes applying to oil operations in addition to the 2¾ per cent gross production tax, often thought of as the principal tax in that state. Pointing to the inequality of the tax load in the state he said that while the oil industry constitutes 19 per cent of the total true value of all taxable properties, it pays directly 42.4 per cent of all taxes levied by the state and its local subdivisions. This comparison does not include the gasoline taxes.

In 36 counties where intensive oil development is under way, Mr. Hunter explained, 60 per cent of all local ad valorem taxes are collected from oil. In 22 of the largest oil-producing states the ad valorem taxes paid by oil operators range from 50 to 96 per cent of the total.

"It is often alleged that any increase in the tax load of oil will be immediately passed by the producer to the consumer through the medium of increased price for gasoline," Mr. Hunter said. "This is not possible for the great majority of oil operators. It is particularly untrue with reference to independent operators who own more than 50 per cent of the production in Texas. Increased taxes in the past have been largely absorbed by the industry and more especially by the producer. This is well illustrated by the fact that gasoline now retails at approximately the same price it did 15 years ago when oil was selling for $2.50 per barrel as compared with the average price in Texas today of $1.20 per barrel. The 5-cent-per-gallon tax on gasoline represents approximately $1 per barrel in the market value of crude oil. If the tax load were the same now as it was in 1922 crude oil should be selling for $2.50 per barrel without any increase in the present price of gasoline. It is difficult to convince the oil producer that the consumer is paying this increased tax load while he buys his gasoline at the same price he paid before the increase in taxes and the oil producer is selling his crude oil for 50 per cent of the price he obtained before the tax was levied. When the consumer pays it, the money is taken from the producer's pocket.

"It is obvious that the major part of the tax increase has been absorbed by the industry, but that ability to absorb has reached the irreducible minimum point, and, therefore, any further substantial increases probably would be passed through economic necessity to the consumer and immediately have an adverse effect upon the consumptive demand for gasoline with resultant loss of employment and business to many thousands of Texas citizens.

"It is claimed that the oil men advocate a sales tax. This committee makes no such recommendation, but since the oil industry already bears a sales tax of more than 100 per cent of the retail value of crude oil, we call attention to this serious discrimination against our industry by placing upon us such an enormous burden of taxes in a form not now applied generally to other industries.

"It is recommended by your tax committee that the association continue its work along the lines pursued during the past year and that such activities be broadened wherever practicable to the end that not only those engaged in the industry but the entire citizenship of the state be made more fully acquainted with the facts perfaining to the oil industry."

Saturday Session

The discussion of the taxing situation in the state continued Saturday morning at the final business session. The subjects discussed were: "Trends in Local Taxation," by John P. Morgan; "The Federal Tax Depletion Allowance," by Sam Greenidge; "Ad Valorem Taxes in Southwest Texas," by Al Buchanan, and "Ad Valorem Taxes in East Texas," by H. Hunter. George Shepherd, comptroller of the state of Texas, and Clarel B. Mapes, general secretary of the Mid-Continent Oil and Gas Association, Tulsa, also spoke. A luncheon for directors was held at the Dallas Country Club Saturday noon.

Several hundred members and guests attended the annual banquet and stage show held at the Pan American Casino Friday night. It was announced at the banquet that Houston won the golf tournament held Friday afternoon. Ed Herron was awarded the W. B. Hamilton trophy for the lowest score.

Wallace E. Pratt receives distinguished service award through J. S. Bridwell

Trade Agreement With Venezuela May Mean Reduction of Tariff on Oil

WASHINGTON, D. C.—Possibility of a reduction in the import taxes on crude petroleum and fuel oil is contained in the announcement by the Department of State that it is contemplating the negotiation of a trade agreement with Venezuela. The announcement is not a formal notice of intention to negotiate, and if and when such formal notice is issued it will be accompanied by a list of commodities which will be included in the negotiations, and then it will be known definitely whether the department has any intention of reducing the petroleum import taxes. The preliminary notice was issued simply to permit interested industries and parties to inform the State Department what commodities should or should not be included in the contemplated Venezuelan reciprocal trade agreement.

The excise taxes on the importation of petroleum and its products were included in the revenue act of 1932 for a two-year period but have been extended since and under the latest extension they will continue until June 30, 1939. Since the only petroleum products shipped to this country by Venezuela in any significant quantity are crude petroleum and fuel oil it is only these taxes which might be reduced by a trade agreement with Venezuela. The tax on each of these products is one-half cent per gallon.

Under the reciprocal trade agreements act the State Department, through negotiation with another country, may reduce any U. S. import duty by 50 per cent. The legal counsel of the State Department has ruled that excise taxes on imports, such as those applying to petroleum and its products, may be reduced by negotiation in the same way as a regular duty, and in fact the Canadian trade agreement reduced an excise tax on imported lumber. Because the reciprocal trade agreements are all based on the so-called most favored nation principle, any reduction in the petroleum import tax which might be made in the forthcoming Venezuelan agreement would likewise apply to petroleum imports from all other countries with which we have most favored nation treatment, which at present includes the entire world with the exception of Germany and Australia. Even if the State Department does not reduce the import taxes on Venezuelan petroleum and fuel oil, it could agree that this government would not increase these excise taxes or impose any additional customs duties on petroleum or its products during the life of the agreement. The so-called binding of commodities against increased duties or taxes has been used frequently by the State Department in several of its reciprocal trade agreements.

Crude petroleum imports from Venezuela in 1936 totaled 28,426,353 barrels, valued at $19,413,353, compared with imports in 1929 of 31,431,388 barrels valued at $32,609,091. Imports of fuel oil from Venezuela in 1936 totaled 63,276 bbls. valued at $39,864, compared with only 3 bbls. valued at $10 imported in 1929. Undoubtedly a large portion of this shift in imports can be attributed to the excise taxes which became effective in 1932. Since total imports from Venezuela were valued at $26,261,067 in 1936 and at $51,223,844 in 1929, it is apparent the crude petroleum market of the United States is vital in Venezuela's export trade, and that country undoubtedly will bring considerable pressure on the State Department to reduce the petroleum import taxes or at least to bind them against further increases.

Total exports from the United States to Venezuela were valued at $23,912,573 in 1936 compared with $44,856,362 in 1929. Included in these exports are a large number of manufactured products, including oil well and refinery equipment and automotive machinery as well as the following 1936 exports of petroleum products: gasoline, $32,370; lubricating oil, $277,948; lubricating greases, $36,021; refined paraffin wax, $67,609.

Secretary Hull announced oil operators will have a chance to discuss inclusion of crude petroleum and fuel oil in any proposed trade agreement with Venezuela. He said comments should be addressed to the chairman of the committee for reciprocity information (Seventh and F streets), Washington, and should be submitted not later than November 28.

Program for I.P.T. Dinner At Chicago, November 10

The American unit of the Institution of Petroleum Technologists, London, England, will hold its annual meeting during the American Petroleum Institute meeting in Chicago. The dinner session has been set for 6 p.m. Wednesday, November 10. The program follows:

D. G. Smith, Anglo-Iranian Oil Co., on "Cooperative Research and Development." Dr. J. Bennett Hill, Sun Oil Co., on "Research in Separation of Hydrocarbons." Dr. C. K. Francis, petroleum technologist and technical editor of The Oil and Gas Journal, on "Second World Petroleum Congress Highlights." Dr. E. De Golyer, consulting engineer, Dallas, chairman. C. Wagner, Pure Oil Co. is chairman of the arrangements committee, and Dr. Gustav Egloff, Universal Oil Products Co., is the American correspondent of the I.P.T.

Kansas Municipal League Seeks Diversion of Gasoline Tax

DODGE CITY, Kans.—The League of Kansas Municipalities is conducting a campaign for diversion of a portion of the gasoline tax for maintenance of streets. Although A. W. Reilhan, representative from Smith County and Governor Walter A. Huxman warned administrative offices of Kansas towns that a diversion of this revenue would require more tax money, members of the league voted to push their fight to have the revenue split to give every town $500 a mile for street maintenance.

The league also asked that the Kansas statutes be changed to require county commissioners to allocate up to 35 per cent of the gasoline tax and motor vehicle license fees to the cities.

Allowables Increased 35,000 Bbls. In Seventeen Texas Oil Pools

AUSTIN, Tex.—The Railroad Commission October 30 granted increased allowables totaling 35,272 bbls. daily to 17 pools. The increases make the allowable for November 1,386,949 bbls., or 26,351 bbls. less than the Bureau of Mines.

The 17 pools were granted increases for various reasons, including production needed to meet foreign contracts and insufficient refinery supply, to supplant foreign asphalt imports and to equalize allowables.

The Saxet-Frio pool was set at 22,115 bbls. daily with a maximum per well top of 100 bbls., compared with 17,453 bbls. and 80 for each well.

Other pool allowables and those authorized October 20, are:

Talco—33,486, 26,775.
Sulphur Bluff—6,600, 3,341.
Heyser—5,492, 4,399.
Louise—1,501, 1,164.
Conroe—38,702, 34,620.
Howard-Glasscock—14,232, 13,335.
Taylor-Link—1,272, 1,077.
Foster—3,124, 2,649.
Cayuga—10,000, 6,841.
Harper—1,340, 888.
Van—22,716, 20,716.
Fuhrman—1,061, 891.
Yates—28,000, 23,781.
Wasson—1,577, 992.
Plymouth—14,404, 11,653.
Bennett—620, 395.

The commission announced a hearing would be held in Mount Pleasant November 18 to study salt water conditions in the Talco pool. It is sought to find a method of disposing of salt water "produced with the oil from the Paluxy sand and injected into the overlying Nacatoch sand." Carbon black producers will be required after January 1 to report amounts by weight obtained from burning of 1,000 feet of gas.

An order requiring more thorough reports on tank cleaning and plants processing tank bottoms in the East Texas field provides one complete form instead of four.

A special order cleared 3,046 bbls. of oil from the Louise pool in Wharton County while others granted Sun Oil Co. permission to conduct experiments on No. 3 Acom in the Seabreeze area of Chambers County and Magnolia Petroleum Co. on No. 2 J. H. Phelan, in the Cheek field, Jefferson County.

Statewide Proration Hearing Set in Texas for November 15

AUSTIN, Tex.—A statewide proration hearing November 15 has been ordered by the Railroad Commission to receive evidence on which to base December allowable schedules for oil and gas.

Survey of Ratio Is Ordered In Texas Rodessa Section

MARSHALL, Tex.—A special oil and gas ratio survey of every well in Cass and Marion counties section of the Texas portion of the Rodessa field has been ordered by the Texas Railroad Commission. The survey, to check high oil-gas ratio wells, will be conducted by six petroleum engineers of the commission, two from the Marshall office, two from Kilgore and two from Austin. It follows a similar survey conducted by operators themselves to conform with a new commission regulation.

Big Producer in Billings Pool of Noble County

The extreme west side of the Billings pool of Noble County received another boost the first of the week when Continental Oil Co. No. 12 Conway, SW SE SW section 16-23-2w, flowed an average of 399 bbls. of oil an hour on initial open-flow tests. It topped Wilcox sand at 4,266 feet and was bottomed at 4,293 feet. It flowed 323 bbls. of oil the first 30 minutes, 362 bbls. the next hour, 343 bbls., 369 bbls. and 399 bbls. the next three hours, respectively, and 199 bbls. the next 30 minutes, for a total of 1,995 bbls. in five hours.

Louisiana-Arkansas Division Of Mid-Continent Association

SHREVEPORT, La.—Officers of the Louisiana-Arkansas division of the Mid-Continent Oil and Gas Association were reelected for the ensuing year at the annual membership meeting, followed by the board of directors meeting, held at the association's office here.

L. Moseley Moffitt, independent, Shreveport, was reelected president. Vice presidents reelected, all of Shreveport, are: D. W. Harris, Arkansas Natural Gas Corp.; J. S. Hasson, Ohio Oil Co.; Charles G. Laskey, independent; J. R. McWilliams, Standard of Louisiana, and C. R. Minor, Gulf Refining Co.

Arthur R. Campbell was reelected secretary-treasurer. Besides the officers, others selected for the board of directors of the general Mid-Continent Oil and Gas Association were: C. N. Black, Magnolia Petroleum Co., Shreveport; Tinsley Gilmer, Lake Charles; Humble Oil & Refining Co., and a new member, A. R. Carmody, Shreveport independent.

Ruling Defining Depletion by Board of Tax Appeals

WASHINGTON, D. C.—The board of tax appeals in the case of R. R. Ratliff and Vada Ratliff, who own acreage in Montgomery County, Texas, reaffirmed that depletion is allowable only on operating income. Mr. Ratliff and wife charged off $88.12 each for depletion in the sale of oil royalties in Montgomery County acreage. The commissioner disallowed the deduction which was 27½ per cent, named in the revenue act, each, and the Ratliffs appealed to the board of tax appeals.

The board held that deductions for depletion are not allowable on sales but are confined to operating income.

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Job for the Institute

The directors of the American Petroleum Institute, meeting at Chicago next week, could not serve the industry better than by perfecting some method for presenting a united front, not only to stop further tax increases but to bring about reductions in the already discriminatory tax burden.

It is now clear that hesitation in business is due to the fact that industry and business have just begun to realize what a terrific handicap taxation is becoming, plus the uncertainty as to what will be the policies of state and national governments in the future.

It is reasonably sure some industries will be able to secure reductions in taxation based on the contention that otherwise they will be forced out of business. The oil industry has no objection to other industries getting out from under a part of their tax burden but past history shows there is always the danger of these burdens lightened from other industries being passed on to the oil industry.

In addition to the gross production tax, ad valorem taxation, capital gains tax, the tax on undistributed earnings and all the other general imposts, the oil industry is threatened with the repeal of the depletion clause which will mean a further tax on its capital.

The cumulative taxation on the oil industry, the most heavily taxed of all great industries, has reached the stage where it will affect the ability of some units, particularly the independents, to expand their operations to meet the increasing demand for petroleum products.

There is a tax, and sometimes two or more, on every phase of their business, on what they sell, and on everything they buy which costs more because of the increased taxation on businesses which serve the oil industry.

Take the case of Texas as revealed before the Mid-Continent Association at its meeting in Dallas last week. Instead of oil being taxed 2¾ per cent of its sale value, as popularly supposed, the average barrel of oil produced in Texas carries a direct tax load of 8.5 cents. In 45 counties the average state and county tax amounted to 10.9 cents and in 20 counties it ranged from 11 to 14.7 cents a barrel, because of the system of multiple tax levies by the state, counties, school districts and other subdivisions. More than a dozen different kinds of taxes are levied on the production of oil.

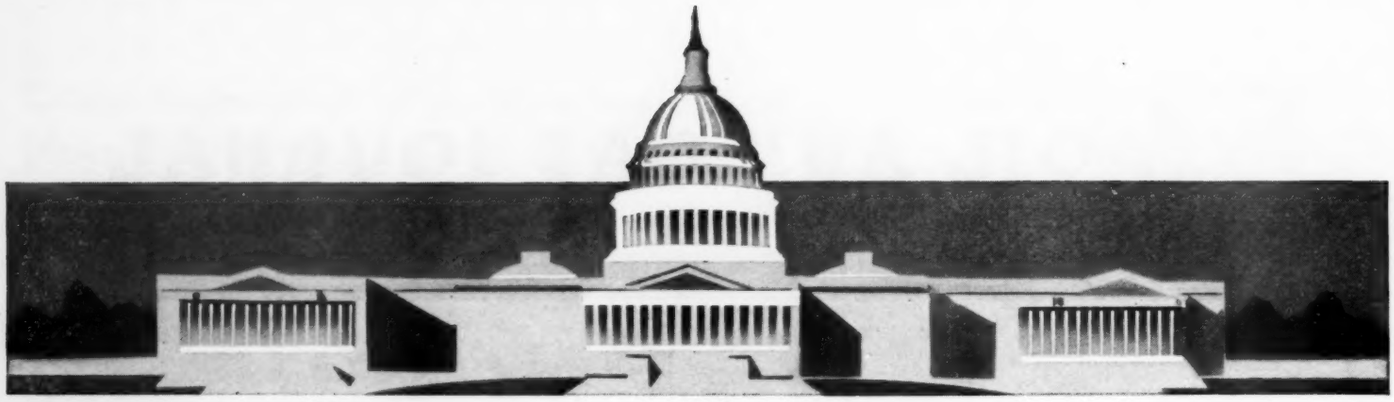
What is the result? Gasoline is being retailed in Texas today for the same price as 15 years ago when crude was $2.50 a barrel. The producer is getting 50 per cent less for his crude but taxes eat up the difference.

So far the oil industry has attempted to absorb the taxes imposed upon it but the point has been reached where it can no longer do so and any further increases must be passed along to the consumer as has been done in other businesses. This will mean higher prices to a public which has too complacently assumed from the oil industry's absorption of taxation that there is no limit to what it can bear.

It has carried the increased cost of labor, which was already above the average, greater outlay for material and supplies, and the mounting multiplicity of taxes but this handicap cannot be increased indefinitely.

Limitation and reduction of taxation will be the big issue in 1938 if business and industry are to continue. The oil industry must gird its loins and make its own fight, not on sectional or state lines but as a country-wide issue.

The Mid-Continent association meeting at Dallas sounded a trumpet call. The refusal of the Texas legislature to approve an administration-sponsored tax increase, aimed mainly at the oil industry, proved that reason can prevail. The hour is ripe for the oil industry to form a united front to present its case to the thinking people of the country.



Federal Control of Pollution of Streams Due Next Session

By HENRY D. RALPH

WASHINGTON, D. C., Nov. 1—Federal control of pollution of streams by oil or other industrial wastes is one of the subjects scheduled for consideration by the special session of congress which convenes November 15. It was not listed by President Roosevelt but it is there, nevertheless, as a part of the administration's bill to create seven regional natural resource planning authorities. There are two forms of this regional authority plan before congress, but both contain antipollution sections more drastic than either the Vinson or the Lonergan bills about which the oil industry was so concerned during the last session.

The Vinson pollution bill, H.R. 2711, was deadlocked in conference between the house and senate when congress adjourned, and presumably an attempt will be made, either during the special session or at the regular one beginning in January, to reach an agreement on this bill and complete its enactment. But, if either of the regional authority bills is passed, it will make little difference what happens to the Vinson bill.

As the Vinson bill passed the house, it directed the U. S. Public Health Service to cooperate with states and private industry in working out plans for reducing the pollution of streams. The oil industry supported this measure. But the senate rewrote the bill, putting in several sections of Senator Lonergan's more drastic bill, S. 13, including a provision under which it is declared to be against public policy and to be a public and common nuisance for any person to discharge or deposit any waste or other substance, in a solid, gaseous, or liquid state, into any navigable stream or tributary if such waste or other substance may be injurious to human health or to any form of life. This section specifically excepted the normal discharge of sewage from boats or from the galley sink drains or the normal amount of oil that may be discharged from the exhaust pipe of a motor boat, and directed a board in the Public Health Service to make regulations defining polluting materials which may be injurious. After three years from the passage of the act, the attorney general might bring an injunction suit to prevent the pollution of streams in violation of the regulations promulgated by the board. The oil industry fought this provision as giving too much discretionary authority to the board and as being too drastic on industries which frequently have to dispose of large amounts of liquid wastes such as oil field brine, or which sometimes inadvertently let polluting material run into streams as in the case of a break in an oil pipe line or tank.

Difficult Choice

Drastic as this Lonergan provision may seem, it is mild in comparison with the pollution section of the regional authority bills. There are two of these bills, one introduced by Senator George E. Norris of Nebraska and Representative John E. Rankin of Mississippi, and the other introduced by Representative Joseph J. Mansfield of Texas, chairman of the house committee on rivers and harbors. Both bills are claimed to be in line with recommendations made by the president last spring, but the Norris-Rankin bill is designed to put the government more directly in the electric power business than the Mansfield bill. The former would create seven regional conservation authorities, each with wide powers similar to those of the Tennessee Valley Authority, while the latter would create only regional planning agencies initially with provision for electric power authorities to be created later. The pollution sections of the two bills also differ, although it would be difficult for industry to make a choice between them.

The Norris-Rankin bill would give each regional authority—and the seven together would cover every watershed in the country—complete control of practically everything affecting any navigable stream or its tributaries, and no dam, bridge, wharf, landing, sewer, pipe, float, "or other or different obstruction or polluter," could be constructed or operated along, in, or into any navigable stream or tributary except under permit from and in accordance with plans approved by the regional authority. Such authority would have to be secured to continue the operation of any "polluter" after the effective date of the act. It is further provided that the regional authority may bring suit in the United States courts to require the removal of "any obstruction or polluter."

The pollution section of the Mansfield bill is even shorter and more direct. It simply says, "It shall be unlawful for any person by any sewer, pipe, outlet, or other means, device, or practice, to pollute or to make unsightly waters of or flowing into navigable streams or other streams over which the congress has jurisdiction." It also provides that the attorney general may, and at the request of the U. S. Public Health Service shall, bring injunction suits to "require the removal of any polluter."

More Drastic

Both of these provisions are more drastic than the Lonergan bill in that there are no statutory exceptions, no provision for regulation by a board of engineers, and no three-year waiting periods before injunction suits may be brought. The pollution section of the Mansfield bill apparently would not be enforced by the regional planning agencies, but directly by the attorney general. There is no definition of "pollute or to make unsightly," and no provision for regulations defining the terms or setting up any policies.

Under the Norris-Rankin bill, the regional authorities would have complete control of pollution within their own jurisdiction and each one could make its own definition as to what constitutes a "polluter." Apparently each could be quite arbitrary in granting or denying permits for the continued operation of a "polluter." Moreover, injunction suits would be brought by the authority rather than by the attorney general, so that the same bodies would make the rules and enforce them.

While there are differences regarding the authority to engage in the electric power business, the regional agencies set up by either bill would have very broad powers regarding everything relating to the conservation of water, soil, and forest resources. Under the Norris-Rankin bill each regional authority is directed to cooperate with other departments and agencies of the government in working out a coordinated conservation plan, and to make recommendations to the president for coordinating its work with that of other federal agencies. This means, for example, that if the Vinson stream pollution bill passed whether with or without the Lonergan amendment, the regional conservation authorities could virtually take over the pollution control work given to the Public Health Service by the Vinson bill if they so desired. Stream pollution policies might then be dictated by fanatical conservationists rather than by a board of sanitary engineers.

Heyser Extension Considered Important Potential Reserve

By F. L. SINGLETON

CORPUS CHRISTI, Tex., Nov. 1. Recent extensions and new sand discoveries have enlarged the potentialities of the Heyser field and it is now considered one of the most important reserves in the lower Gulf Coast district. The field, approximately 15 miles west of Port Lavaca, is in northwestern Calhoun County and southeastern Victoria County.

The structure was found by the use of geophysics and subsurface geology by Humble Oil & Refining Co., whose first two tests on the south and southeast edges, proved futile. Production was opened in May, 1936. Humble Oil & Refining Co. and Plymouth Oil Co., jointly control 75 per cent of the proven area with the balance divided among Gulf Oil Corp., Sinclair Prairie Oil Co., Magnolia Co., Normandie Oil Co., Sun Co. and independents.

Until March last, development was carried on by Humble Oil & Refining Co. and Portilla Drilling Co. on a 20-acre spacing basis. They have kept three rigs running and have completed 59 wells extending production approximately 2 miles in width and about 1½ miles in length. With the exception of one well on the extreme east side, all are producing from the 5,400-foot sand at average depths of 5,460-99 feet. Production has been defined on the east side by two dry holes drilled by Portilla Drilling Co. and Blanco Oil Co. on the P. H. Welder lease in the D. D. Palmer Survey.

Following completion of George Echols No. 3 W. H. Bennett in March extending the field a mile north into Victoria County. Offsets were staked by Magnolia Petroleum Co., Sinclair Prairie Oil Co., Sun Oil Co., Gulf Oil Corp., George Echols, Normandie Oil Co., and Blanco Oil Co. which have 10 producers and 8 rigs running.

The north extension is being developed on a 10-acre spacing basis and it is evident "twin well" drilling will be done since there are three distinct producing horizons. Drilling of these wells, however, will be determined by the structural position of the wells and this type of development cannot be expected generally due to uncertain sand conditions. In this respect Blanco Oil Co. recently completed a good producer from the 5,400-foot sand which offsets Normandie Oil Co.'s 5,500-foot well to the east that showed only gas in the 5,400-foot pay. Believing the first test was low enough on the structure to find production in both the 5,400- and 5,500-foot sands, a twin well was drilled to the 5,500-foot pay where it will be completed as a wet gasser failing to show for oil on a drillstem test.

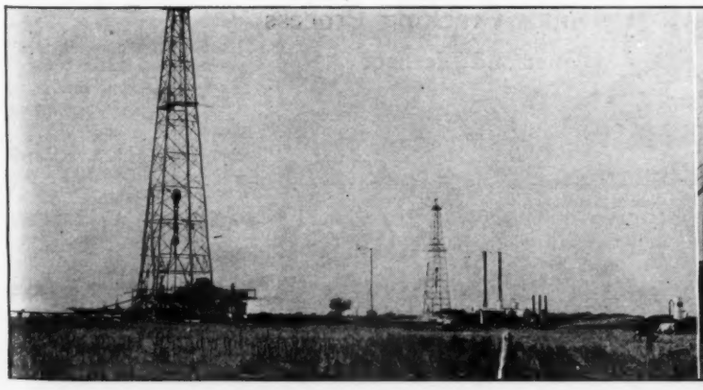
Heyser is a deep-seated salt dome structure in which all production is developed from the Frio horizon of the Lower Oligocene, approximately 600 feet below the Heterostegina. It is one of the few deep-seated structures in which no faulting has been found. The irregular sand condition is due to a very lenticular condition. While the wells in the southern part have been completed at comparatively uniform depths in the 5,400-foot sand, recent developments in the north extension which according to the geophysical shooting is the high part of the structure, has presented an unusual lensing condition puzzling to the operators.

Lenticular Condition

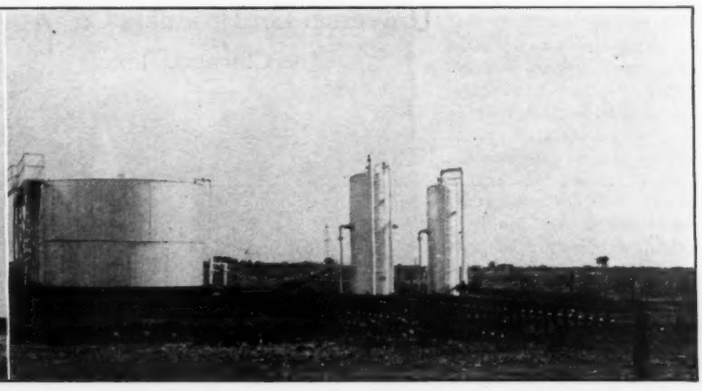
This lenticular condition becomes noticeable in the northern portion of Humble Oil & Refining Co. "B" P. H. Welder lease in the A. Sisneros Survey and continues northward to the high part of the structure. While there have been approximately 11 wells completed in the 5,700-foot pay at fairly uniform depths, recent developments on the west and extreme north sides of this area have been irregular. On the west side offsetting a 5,700-foot producer, Gulf Oil Corp. is preparing to test No. 1 Traylor bottomed in 2 feet of oil sand at a total depth of 5,753 feet. No gas sand was encountered whereas the rest of the 5,700-foot wells have encountered 25 to 30 feet. This well is believed to have cut a fault which is the first evidence of faulting and may affect future development. On the north side offsetting George Echols No. 1 Lander, Gulf Oil Corp. is preparing to test No. 1 Schultz after a drillstem test showed 800 feet of pipe line oil at 5,480-86 feet, total depth. This sand has been cored and tested in all of the 5,700-foot wells, but showed only gas which indicates the test is downdip from the high part of the structure and that production may be extended several thousand feet north. It also indicates production from the 5,700-foot sand will be confined to a comparatively small area.

There are four distinct gas sands overlying the structure, encountered in the Discorbis and Heterostegina zones at uniform depths of 3,400 feet, 3,700 feet, 3,900 feet and at 4,700 feet. The latter is the "Greta" sand in the Heterostegina. The average sand thickness of the producing horizon including oil and gas ranges from 20 to 60 feet. There is practically no gas cap, although in some places the gas sand has been found to be separated from the oil section by a thin shale break. The gas-oil contact in the southern part has been determined at minus 5,412 feet while the water oil contact is 5,445 feet. In completing wells in the southern part, Humble Oil & Refining Co. uses no screen, although in the northern portion, it is a common practice to use both screen and liner. The casing string consisting of 5- and 7-inch is usually cemented on bottom and the wells are completed through perforated casing. The wells are washed in on a 3/16- or 9/64-inch choke through the tubing and the average initial production ranges from 175 to 275 bbls. per day with surface pressure varying from 450 to 2,100 pounds.

At a recent date there were 77 producing wells in the field, having a daily initial production under proration of 5,081 bbls. Fifty-seven are owned jointly by Humble Oil & Refining Co. and Plymouth Oil Co. with the balance divided among Sinclair Prairie Oil Co., George Echols, Gulf Oil Corp., Sun Oil Co., Normandie Oil Co., Magnolia Petroleum Co. and Blanco Oil Co. With the exception of the south and east sides, the field is undefined and at present covers an area of 2½ miles from north to south and from east to west. It is estimated there are 1,290 actual producing acres of which 820 are held by Humble Oil & Refining Co. and Plymouth Oil Co. Three thousand acres are said to be proven and it is estimated the producing area will eventually spread over more than 6,000 acres. The per acre recovery has been estimated at 8,000 bbls. which on a basis of 6,000 proven acres will give the field an ultimate recovery of 48,000,000 bbls.



North extension Heyser field



Tank battery—centralized separator hook-up

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East Texas Area Is Focal Point in Oil Hearings at Madison

By R. B. PYRE

MADISON, Wis., Nov. 2.—Government counsel resumed introduction of documentary evidence in the oil trial just before noon Tuesday. During the week it was expected the prosecution would turn to the part of indicted journals, having subpoenaed Keith Fanshier of the Chicago Journal of Commerce, John Steiger, of the Oilgram Tulsa office, and J. P. Mosher, Jr., of National Petroleum News.

John M. Bradshaw, Dallas commission buyer, whose testimony was concluded shortly before noon, said there was nothing unusual in the fact that majors bought gasoline in 1935 and 1936 and their buying or lack of buying always had an effect on the strength or weakness of the market. Colonel Donovan, in cross examination, adopted "the same formula laid down by the government" in refreshing Bradshaw's memory through letters and telegrams.

A "tight situation" in East Texas, Bradshaw explained, was caused by the Connally act and the tender boards, and Bradshaw's telegrams to various customers in 1935 progressively showed the reduction in the number of refineries operating due to difficulty in getting federal tenders. The refineries operating on tenders dwindled from six to five, then to four during the summer. A cable to a customer in England on October 5 reported difficulty in buying because of the Ethiopian situation.

Shown that his purchases for the Gulf company in 1936 totaled 5,040 cars compared with 2,098 in 1935, Bradshaw said his purchases for other customers in 1936 increased in the same proportion. While his purchases in November and December, 1935, ran larger than in April, May and June, Bradshaw denied any significance in the fact as all the shipments went to the Gulf Coast, not into the midwest market. He declined to say that successful operation of Cline's association accounted for the stability of the market.

The so-called East Texas phase of the alleged conspiracy to control surpluses and raise prices through two "buying pools" occupied the court and jury throughout the fourth week.

The witnesses were Neil Buckley, field representative of Cities Service Export Oil Co., and Robert Cline, secretary of the East Texas Refiners Marketing Association. Through them the government attempted incidentally to link the Oilgram to the alleged conspiracy as it had sought to link the Chicago Journal of Commerce to the Mid-Continent program through Walter P. Jacobi of Tulsa.

Specimens of correspondence were woven into the testimony in the government's attempt to show existence of an East Texas pool and that purchases were "allocated" to various major companies, contrary to the defense claim that the picture was reversed—that instead of the majors initiating a program in East Texas, the East Texas refiners came to them for help.

To understand what the "shooting was all about" it might be well to quote the indictment:

"Throughout the period aforesaid (1935 and 1936) defendants Sinclair, Gulf, Texas, Pure, Continental, Tide Water, Cities Service, Cities Service Export and Louisiana Oil have made large and increased purchases of gasoline in spot transactions from most of the independent refiners in the East Texas field. Said independent refiners have been members of an association known as the East Texas Refiners Marketing Association formed in February, 1935, with the knowledge and approval of some of the defendants, for the purpose of selling and facilitating the sale of gasoline to defendant major oil companies. . . .

"Each of the defendant major oil companies named has taken a part of the large quantities of gasoline purchased through said association, as from time to time arranged among them. Said quantities of gasoline purchased from said independent refiners through said East Texas Refiners Marketing Association have amounted to more than 50 per cent of all the gasoline produced by said independent refiners. Said purchases have been in excess of the amounts which the aforementioned defendant major oil companies would have purchased apart from their participation in said buying program, and they have been made at uniform, high, arbitrary and noncompetitive prices, and from time to time at progressively increased prices. . . . In furtherance of said unlawful purposes said independent refiners have, at the instance of defendant Arnott, and the aforesaid Buckley, curtailed their production of gasoline. . . ."

The prosecution devoted considerable time in attempts to show the major companies were far more interested in the East Texas program than the testimony of Buckley and Cline would indicate, and in particular to prove that Texas Co. participated regularly in the program while allegedly attempting to hide the fact. It tried to establish that "Whitey" May, a field man employed by Texas Co., was surreptitiously used as a "contact" between Buckley and Cline.

The government emphasized that Cline had no records of transactions with major companies other than slips showing commissions charged to majors on regular purchases from refiner members, and Cline had to show why Texas Co., which he said made some small purchases direct from members but refused to deal through the association, was included on the commission list. He explained in its early months the association charged commissions to all refiners on sales within the trade territory because of the advantage in freight rates, and that Texas Co. was included because it also was a purchaser within the territory.

With Buckley on the stand, the defense won a point secondary in importance only to that of the preceding week when it was permitted to cross-examine Jacobi on governmental authority. Through Buckley the defense succeeded in identifying C. E. Arnott, the alleged "master mind," as a government official.

In addition to Arnott the government sought to show that H. E. Brandli, Frank R. Coates and Harry D. Frueauff, officials of Cities Servvice or Cities Service Export, were among the principals in the East Texas program.

From the time he took the stand, Buckley emphasized discouraging results of his efforts to interest major companies in East Texas gasoline. An early statement that he recognized Arnott only as "an officer of the government," and not as vice president of Socony-Vacuum, was ordered stricken, but on cross-examination he was permitted to state he was sent to Arnott by Dr.

Lack of adequate office and hotel facilities forced some of the oil companies to lease homes in residential section of Madison. Among them is "Dunmoven," rented by the Socony-Vacuum Oil Co., Inc.

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E. R. Lederer, of the federal allocation board in Washington. Dr. Lederer told him Arnott was "chief stabilizer" and was the only man in reach who could help him. He was introduced to Arnott over long-distance telephone by Dr. Lederer, Buckley said.

The government's attorneys battled against any reference to Dr. Lederer or his status, claiming he had not been mentioned in direct examination, but the defense produced a letter, read by the prosecution in evidence, containing reference to Dr. Lederer, and charged the government had "skipped over" all bits of conversation and correspondence which it did not care to have brought out.

Judge Stone allowed Buckley's statement to stand after questioning him personally.

"Did you go to him as an officer of the Socony-Vacuum company?" the court asked, and Buckley replied, "No."

Origin of Association

Buckley said he was dictating a letter to his superior, Mr. Brandli, when Marion Travis and Henry May, representing a group of East Texas refiners, called him by phone to ask his help as an "experienced man." A group of refiners proposed to form an association, they told him, eliminate the stigma of hot oil production, and place a standard product on the market with the hope they could sell to major oil companies.

He referred the proposal to Mr. Brandli, and within a day or two received the reply by telegram, announcing that Mr. Arnott was away on vacation, but Brandli thought it was an "excellent idea," believed the majors would co-operate, and ended with a "go to it" and best wishes for success.

While this was early in February, government counsel introduced letters and telegrams between Buckley and Brandli which assertedly indicated the "conspiracy" already was in its formative stages. Mr. Lewin read a January telegram from Buckley to Brandli which said, "uplift purchasing continues but prices u n c h a n g e d." Buckley, throughout sharp questioning, insisted "uplift purchasing" had no relation to prices, but was a term used by himself and Brandli for many years and "in our parlance" an "uplifter" was a steady buyer on the open market.

Another letter to Brandli, dated January 26, 1935, reported large purchases by John Bradshaw, Texas broker, of stocks that had "overhung the market" were expected to be a stimulating factor, and added with demand at a low ebb the dumping of any large quantity on the market would "make the operations of the uplift buyers more difficult for the next two or three weeks."

"Are you testifying that with 'demand at a low ebb' this 'uplift buying' does not mean buying to get the price up—buying to strengthen price?" Lewin demanded.

"I don't know as I can answer yes or no," Buckley replied, and Judge Stone halted further interrogation with the remark the jury might place any interpretation it chose on his statement.

Buckley arrived in East Texas on February 4, and on that day a meeting was held to organize the Texas Refiners' Association. He went first to investigate the "sincerity" of the refiners and afterwards remained for several months to help them. A letter, written by Buckley to Brandli, on February 7, reported that regardless of the refiners' sincerity claims, and their intention to "work for stabilization," the oil market outlook was not encouraging.

He didn't remain for the organization meeting, Buckley testified, but left by plane for the East to interview representatives of major companies. First he had asked O. H. Carlisle of Gulf Oil Co., if he would consider doing business with the new association, but Carlisle had told him that after past experience he would be unwilling under any conditions to help refiners of that type, and that Buckley was only "wasting his time."

On his trip East, he tried to see W. V. Hartmann of Gulf company in Pittsburgh, but Hartmann wasn't there, nor was he available when Buckley arrived in New York. In New York H. W. Dodge of Texas Co., disclaimed authority to deal with him and R. D. Cottingham of the same company ordered him "out of his office." Then he flew to Pinehurst, N. C., where Arnott was on vacation, to see him.

"Did you ask Arnott if he could get the majors to cooperate?" Lewin asked.

"I believe I did," Buckley answered, but Arnott said he wanted to investigate the association first, and would let him know later.

A few days later he was called long-distance by Arnott and invited to attend a group meeting in the Blackstone Hotel at Chicago on February 25. He attended the meeting with Henry May and Martin Grogan of the refiners' association. There, at Arnott's request, he explained the purpose of the association.

Subsequent meetings were held at the Waldorf-Astoria hotel in New York on March 6 and March 15. Buckley said in this connection the government introduced telegrams from Arnott, asking the presence of various major company representatives, describing the meeting as of "extreme importance," and announcing "the question of surplus must be finalized at this meeting."

Asked if a plan was discussed to divide the surplus in East Texas at the second New York meeting, Buckley said Arnott asked suggestions and a "proposed list" was read by J. W. Carnes of Sinclair Refining Co., as to what amounts each company might be asked to take.

Some major company representatives, however, said they would not participate in any East Texas program, he added, and others denied authority to act.

"Nothing was decided as to who should buy, how much they would buy or whether they would buy at all," Buckley declared, and he left the meeting discouraged, having "accomplished nothing" after three weeks of effort.

Subsequently, he reported, individual companies, after personal contacts, consented to buy through the association, including Sinclair, Shell, Cities Service, Socony Vacuum and Continental, and Mr. Hartmann, whom he encountered at the Planning and Coordination Committee office in Washington, told him if Bradshaw, who handled most of Gulf purchases in East Texas, cared to get in touch with the association he had no objection.

Supply and Demand

Denying he was motivated primarily in subsequent months by the desire of major companies to "get the price up," Buckley said his salary was paid by Cities Service, but after May, and until October, he continued to help the refiners on his own responsibility.

"Did you tell the buyers to buy at prices that would strengthen the market?" Lewin asked him.

"I always believed in the law of supply and demand," Buckley replied. "I never fixed a price and never suggested a price to any major. I felt, naturally, that a good demand would bring about a good price."

He was shown a chart which pictured gasoline prices on the upward grade during the time he was working with the refining association, but declared he remembered the refiners raised the prices before the quotations went up in the journals.

He was shown a letter he wrote to Brandli on April 8, 1935, reporting his work had "taken all my time for 60 days" and "a vast amount of good has been accomplished."

Buckley's cross-examination was surprisingly brief. He testified he made 35 purchases of third-grade gasoline in East Texas for his company between February and March, 1935, at the "low" of quotations in Oilgram and 34 purchases below the "low." He didn't make his purchases on Oilgram quotations, however, nor on those of the Chicago Journal of Commerce, which he never saw, but on prices directed by his superior, Mr. Brandli, he declared. None, he said, was made above the Oilgram "low" as shown on the chart displayed.

His direct examination was concluded with the introduction of letters and telegrams tending to show a direct interest on Arnott's part in the East Texas operations. One was a letter by Buckley to Brandli in May reporting he had asked Arnott for "relief" from his duties and another was a telegram from Arnott to H. D. Frueauff, vice president of Empire Oil and Refining Co., subsidiary of Cities Service. The telegram, dated at New Orleans, January 29, 1936, reported "East Texas situation needs prompt handling to keep in line. Need your help." That help, it indicated, would consist of a 50-car purchase.

Markets Steadier

A confidential memorandum from Buckley to Brandli, May 7, 1935, referred to a large purchase of what otherwise would have been distress gasoline as being "principally responsible for higher prices prevailing."

A telegram from Buckley to Brandli on July 8 reported markets steadier and predicted "integrated company purchases" would increase next week.

There were several other letters referring to the condition of the market and the effect of purchases, and before Cline was called to the stand, nearly a half day was consumed in presenting a mass of correspondence tending to show the major companies continued to buy surplus gasoline after the NRA was invalidated.

A series of weekly letters was introduced from J. W. Warner, of the Tide Water company Tulsa office, to J. D. Collins, general manager of its automotive gasoline sales department, containing repeated references to the "inter-refinery" purchasing movement as an outstanding factor in maintaining stabilized prices throughout 1935 and into 1936.

Introduction of the Warner letters was preceded by other communications tending to show the effect of major company purchases upon the market price.

One letter, by F. L. Koopman of Phillips Petroleum Co., recommended to his superiors that they "let the market take its course," and not purchase any more surplus gasoline as the company's purchases were exceeding its sales, and to continue purchasing would entail a loss. To hold the market "at its present level," Koopman wrote, it would be necessary for the company to purchase 150 cars.

A memorandum from Dewey K. Chamberlain, manager of the Tulsa division, to a Chicago official of Pure Oil Co. on May 14, 1935, complained that some majors were withholding support and their action was "unfair to those supporting the movement for the benefit of all." Buckley had reported, he added, "some of the refiners are squawking because our buying price is lower than some of the publications."

A reply to Chamberlain asked that the Chicago office be advised if other companies were not adhering to the buying program. "If others decide not to purchase further we might also want to discontinue," it said.

The Warner series started on April 6, when Warner wrote refiners were not fearful of the market structure "breaking down," unless prices were "boosted too fast," and advised a gradual increase as having a better chance of "building a firm market."

Subsequent letters through the summer described continuance of a firm market and improvement in prices. One said the graduated rise in tank car and retail prices had been timed to hold the spread "close to the 5½-cent margin necessary for jobbers to operate and to keep the market stable."

Another, after the Supreme Court decision in May invalidating the NRA, announced "buying will continue," and on September 21 Warner reported

the market had weakened because of surplus offerings but prices had been restored by "quick inter-refinery market support."

Letters continued to report a firm market through October, but in November "drastic reductions" were feared unless inter-refinery purchasing continued, and on November 18 Warner wrote that the assistance given to small refiners in disposing of their product illustrated "the importance of unselfish practices for the good of the industry."

Late November and December letters told of market rallies in response to major company buying, and a letter of January 11, 1936, mentioned the sudden advance in crude oil prices which witnesses had described as having caused excitement throughout the industry. Subsequent communications told of continued spot market purchasing and a half cent rise in gasoline prices to offset the increased price of crude.

Denied Inferences

Cline, who was on the stand when court recessed from Friday until Monday, repeatedly denied inferences which the government sought to place upon conversations and incidents.

Long arguments developed over the prosecution's efforts to show the surplus gasoline purchases in East Texas were "allocated." The most protracted discussion developed over attempts to connect Texas Co. with the program through conversations of Cline and Buckley.

J. C. Denton, attorney for Mid-Continent Oil Corp., demanded Lewin be reprimanded for "inferring a conspiracy by innuendo on the basis of facts entirely legitimate." S. A. L. Morgan, counsel for Texas Co., insisted the only fact so far proven was that his company bought oil in Texas.

"Is that a crime, your honor?" he asked the court.

Judge Stone finally asked Cline if Buckley ever told him Texas Co. would be a regular buyer of gasoline.

Buckley informed him, Cline answered, the company needed gasoline for its stations in the trade territory and would buy gasoline in the East Texas field.

"He told me further," the witness added, "he did not think they would buy through the association."

The government questioned Cline closely as to what Dewey Chamberlain meant when he referred to "upsetting the apple cart" in a letter written to Cline, produced after Lewin had asked the latter if Pure Oil Co. had received any definite allocation of purchases.

"I don't know that they had any specific amount of gasoline they intended to buy," Cline answered, and he was shown a letter in which Chamberlain previously had reminded his superior officers that "we never took our allocation of five cars a day."

"Chamberlain never told me he had any allocation," the witness insisted, though he produced letters showing the company purchased an average of 103 cars a month in East Texas over a period of 14 months. Chamberlain never gave him any information beyond the current month, he said.

Lewin then showed him Chamberlain's letter, written on June 29, 1935, which said, in part:

"I appreciate the trouble that confronts you, but the manner in which Grogan and Chief are handling our shipments continue a pain in the neck . . . I'm not so sure, Bob, but what assessment of some penalty for failure to follow our instructions as to specifications and shipping dates would be more effective than continuing registration of complaints. However, before taking this action I would appreciate an expression from you. We don't want to do anything to upset the apple cart or work undue hardship on you, but we are getting tired of the negligence and indifference exhibited by these refiners."

Asked what Chamberlain meant by "upset the apple cart," Cline said he thought Chamberlain had the idea he, Cline, received a commission on association sales and that the Pure Oil manager was giving him business out of personal friendship.

"I believe he was warning me that if I couldn't do a better job, he'd quit," the association secretary said.

"Doesn't 'apple cart' mean buying by his and several other companies by agreement?" Lewin demanded.

"I wouldn't think it would refer to anything except buying by the Pure Oil Co.," Cline replied. His grand jury testimony on this point was shown to Judge Stone, but the latter did not read it to the jury.

"If my whole grand jury testimony were read, it would show that I knew nothing about any agreement," Cline suggested.

Defense counsel shouted objections when Lewin retorted, "But it showed that you suspected there was an agreement."

"That's what he's been doing all along," the defense complained, protesting the inference.

Previously, while Buckley was on the stand, the court had reprimanded Lewin when the defense objected to his repeated inferential remarks.

"Keep your remarks out of this record," Judge Stone ordered. "There has been too much of that going on here."

Asked why he had no records of his dealings with major companies other than his commission slips, Cline declared that 100 per cent of his business was done by direct contact necessitating no records.

"Did Buckley tell you not to keep records or that he didn't want you to send him anything in writing?" Lewin asked.

He didn't even remember discussing the matter with Buckley, Cline answered, but it was shown that he testified before the grand jury, "He told me he didn't want any records from me or anything in writing."

It is entirely possible, Cline then explained, that Buckley told him he wouldn't need any reports on the progress of the association, as he was continually in the field and they were in daily contact.

Cline denied emphatically the major companies "fixed" the prices to be paid for gasoline purchases and insisted independent jobbers can buy gasoline in East Texas without being forced to seek other sources because of competition from the majors.

Major Purchases

"I still say," he declared after repeated questions from Lewin, "there never was a day when a jobber or a broker from the north could not buy gasoline in East Texas."

Major companies bought 7,000 to 8,000 cars in East Texas through his association in 1935, Cline testified, out of about 30,000 cars supplied annually by the entire field.

Asked why he charged commission on purchases made by major companies, Cline said the association was rather poor at the start and commissions on sales within the territory were not sufficient to meet expenses. It stopped charging commissions altogether however, last spring.

"Didn't you regard Texas Co. as supporting the buying program without doing so openly?" Lewin asked, but the questioning was stopped by a volley of objections against testimony based upon hearsay and supposition.

Cline testified, when asked if he apportioned major company purchases among the member refiners, that he allocated some of the business, but in many instances put buyers in contact with refiners to dicker at their own prices, and all prices were made at "arms' length trading."

One of the first moves attempted by his organization, he explained, was to teach members how to make specification gasoline.

"Isn't the price made by these major company buyers?" Lewin asked.

"The majors have a right to offer a price. Our members have a right to ask a price. If they can get together they make a deal" Cline replied, but throughout persistent questioning he denied the refiners were forced to take the "first price offered" for their surplus gasoline and were not dependent upon any one buyer as a market.

On cross-examination, which like that of Buckley, was brief, Cline testified purchases of gasoline in his association territory by the majors in the first four months of 1936 amounted to only about 25 per cent of the total shipped out of that area during the period.

Col. Donovan sought to show significance in the fact that none of the marketing association's officials, alleged to have cooperated with the majors in their "program," was indicted in connection with the conspiracy charged.

Cline said the association is still in existence and still selling gasoline to major companies as well as other buyers.

Questioned on Quotations

The government had sought to show for more than an hour of questioning that quotations in the Oilgram were dominated by the major company purchases. Lewin asked Cline if many sales were not made to jobbers and brokers as well as major companies, at prices as much as three-eighths of a cent below published prices in the Oilgram.

"That is entirely possible at a time when the market was weak, but it was too long ago to remember the exact transactions," the witness answered.

Judge Stone agreed with the defense the record of sales was the best evidence on that point "unless it was a notorious fact."

"That's what we contend," Lewin said.

During cross-examination, Col. Donovan asked Cline why his association was formed.

The witness said it originated after a Supreme Court decision, in January 1935, had put the tender boards created under one section of the NRA out of existence.

Before the tender boards were established to control production, he said, companies were afraid to buy from anybody in East Texas because nobody knew who was running on illegally produced oil and who was not. After the Supreme Court decision, he continued, a group of the more substantial refiners met to discuss some means of operating at a profit on legal crude at $1 a barrel. They recognized, he said, the days of illegal oil were past, and the association was formed with the principle in mind that the members would operate only on legal crude and would support legislation to outlaw "hot" oil. It was decided, Cline added, to establish a central marketing organization and get in touch with buyers who formerly had purchased in East Texas.

"Is it still operating as a selling agency and still negotiating sales to major companies?" Col. Donovan asked.

"It is," Cline answered.

Although the government is expected to consume two or more weeks to complete its presentation of evidence, the defense last week announced subpoenas for its first 13 witnesses. They include:

E. B. Swanson and J. W. Frey, Washington, D. C., former members of the Petroleum Administration Board, now in the Petroleum Conservation bureau of the interior department.

R. H. Winget, manager, Cushing Refining and Gasoline Co., Cushing, Okla., described in government testimony as one of the refiners who attended a St. Louis meeting at which plans were discussed for major purchases in the Mid-Continent field.

C. O. Beroth, Chicago broker, who has appeared as a government witness.

J. A. Moffett, former vice president of Socony-Vacuum Co. of New Jersey and described as a former "Roosevelt representative" on the Planning and Coordination Committee.

I. E. Lamp, custodian of Planning and Coordination Committee files.

Charles Fahy, former chairman, Petroleum Administration Board, now general counsel for the National Labor Relations Board.

G. R. Hopkins, and A. H. Breakey, economists with the Petroleum Economics bureau in the Bureau of Mines.

J. E. Shatford, president of the Ouachita Valley Refining Co., and former coordinator under the petroleum code.

J. D. Collett and Wirt Franklin, independent producers and both former chairmen of the Planning and Coordination Committee.

R. B. Jones, president, Panhandle Refining Co., Wichita Falls, Tex.

As it had endeavored to tie Texas Co. into the alleged conspiracy through Cline, the prosecution, at the opening of this week's sessions, attempted to tighten its case against Gulf Oil Corp. and Gulf Refining Co. through Bradshaw.

Bradshaw, referred to early in the trial by government counsel as a "co-conspirator," though not indicted, was called after Cline had been asked a single question on redirect examination.

The question was, "Who was the principal buyer during 1935 and 1936 for the Texas Co.?" Cline answered that most of the purchasing was done under direction of P. C. Scullin, a defendant.

No Suggestions

Statements by Bradshaw on the stand Monday and in correspondence with Chicago brokers brought into evidence by indirection inferred the buying of major companies materially influenced the market. He also testified the market began to rise soon after the East Texas Refiners Association was organized, but on cross-examination said no official of the Gulf companies ever suggested that he buy through the association and no company representative ever asked him to make a purchase for the purpose of supporting the market.

Bradshaw, examined by William P. Crawford, special assistant to the attorney general, placed the Sinclair and Gulf companies at the head of his list of patrons in quantity of purchases, but declared he bought for many other companies as well as brokers, and estimated his Gulf company purchases represented about 15 per cent of his buying business.

The testimony was interrupted by defense objections when Crawford questioned Bradshaw's memory in relation to his grand jury testimony. Defense attorneys charged the government was reading grand jury evidence into the record in an "impeaching" manner. Bradshaw denied stating before the grand jury that a third of his purchases in 1935 and 1936 were made for the Gulf company. Of the 15 per cent he gave Monday, he estimated only about 15 to 20 per cent was made through the refiners association.

He talked with both Cline and Henry B. May, refiner, of Tyler, Tex., about the association when it was being organized, he said, and was given to understand its purpose was to seek an orderly market for surplus gasoline. He inquired of Cline as to how the association would work and how it would affect his own business, Bradshaw testified. Cline told him he would not be affected at all, but could buy "like I always did," he said. He also talked with Neil Buckley.

"What did Buckley tell you he was trying to do?"

"Trying to get some gasoline business for the East Texas refiners."

Buckley also told him he was trying to contact major companies, and again the defense protested when Crawford referred to Buckley as a "go-between."

Bradshaw testified the demand for gasoline was "pretty good" in the fall of 1935, but purchases by jobbers and brokers "fell off some" in the winter, while prices remained firm.

The Dallas buyer answered with a firm "No, sir," when Crawford asked if O. H. Carlisle or H. S. Gwin of the Gulf company gave him any instructions to buy from "Cline's association."

He denied he had testified before the grand jury that Carlisle or Gwin had given him such instructions, insisting he had said if there had been any such instructions they probably would have come from Carlisle or Gwin.

Judge Stone reserved ruling on admission of a telegram from Bradshaw to an official of Hercules Oil Co., Cincinnati, Ohio, in April, 1935, when the defense objected it was a communication between parties who had no connection with the case.

Instead of reading the telegram, Crawford held it in his hand and asked questions from it in such a manner as to indicate its contents, as he did with other telegrams and teletype recordings of conversations with officials of Acme Petroleum Co. and W. H. Barber & Co., Chicago brokerage houses.

Referring to the Cincinnati telegram, Crawford asked if independent refiners were refusing to sell to brokers and jobbers at 4 cents because they could get 4⅛ to 4¼ cents from major companies. The question went unanswered in the clamor of objections.

Defense attorneys made long arguments in protest when Crawford used indirect tactics in bringing out the contents of the teletype conversations between Bradshaw and the Chicago brokers without introducing them in evidence. Both parties are "strangers to the indictment," counsel insisted, and their statements in regard to major company purchases could not be binding upon any defendants. S. A. L. Morgan, representing Texas Co., pointed out that purchases of gasoline also were made by many major companies which were not indicted, and Frederick Wood, counsel for Sinclair Refining Co., insisted the government was wasting time on "hearsay" evidence, as it has records to show every car of gasoline purchased by his company.

Gasoline Stocks

The conversation which occasioned the greatest argument related to a statement that gasoline in storage amounted to 75,000,000 gallons, while major company purchasing was still in progress.

One telegram apparently contained the statement that the market could not weaken as long as major companies continued to buy surplus gasoline; another forecast a stronger market on account of major company buying; another said jobbers "hadn't been doing much buying;" and still another reported that a weak market had been supported when "major companies came in and bought up all the surplus gasoline."

A wire from Bradshaw to Carlisle in June, 1935, was read into the record. It said Cline was getting anxious, fearing the market would break unless more buying was done.

Cross-examined by Archie D. Gray, attorney for the Gulf company, Bradshaw declared he received no answer to the telegram and Carlisle had not asked him to send the information.

"It was my idea that the market was getting weak and that if he didn't need gasoline it wouldn't be a good time to buy," he explained. He bought no gasoline for the Gulf company that day, nor did he buy any until four days later when he purchased one carload.

Bradshaw presented figures showing all purchases made for the Gulf company from December, 1934, through December, 1936. In addition to 277 cars he purchased for the company in December, 1934, the company purchased 50 carloads directly from Grogan Co., and 30 cars were bought direct in addition to the 120 he purchased for Gulf in East Texas in January, 1935. The tally showed monthly purchases through 1935 ranging from 140 to 256 cars, and it showed 1936 purchases exceeded those of 1935, continuing heavy throughout the period when the grand jury was in session. The 1936 list showed January purchases of 283 cars; February, 667; March, 376; April, 271; May, 380; June, 472; July, 522; August, 478; September, 491; October, 384; November, 387 and December 329.

Bradshaw testified he purchased at prices consistently below the low quotations in the Oilgram. None, he said, were made at the high of the Oilgram.

"Did any representative of the Gulf company ever suggest to you that you make a purchase for the purpose of supporting the market?" Gray asked.

"No sir," Bradshaw replied.

Bradshaw affirmed, on cross examination by Col. Donovan, that the Connally act had a "considerable" effect upon the sources of gasoline supply. There were 79 refineries operating before the act became effective and tender boards were established, he said, but now there are only 12 to 15 "really operating" in East Texas. The others closed, he declared, because "they couldn't buy oil, as they had been doing, at 10 cents to 25 cents a barrel."

Robert Yarnall Richie

John G. Pew, president, Sun Shipbuilding & Drydock Co.; Mrs. Quinn, wife of the governor of Rhode Island, who christened a new Texaco tanker at the Sun yards, Chester, Pa., and T. Rieber, chairman of the board of Texas Co., after the launching

Natural Gasoline

California Production Held Unchanged in September

Natural gasoline production in California remained at 41,000 bbls. daily during September, according to the monthly report of the Bureau of Mines, while refinery utilization increased 11,000 bbls. daily to 47,000 bbls. daily. Stocks decreased 14,000 bbls. daily and amounted to 2,207,000 bbls. on the last of the month.

Daily average production of liquefied petroleum gases increased from 1,754 bbls. to 1,846 bbls., of which 557 bbls. were produced at refineries. Daily average sales increased from 1,826 bbls. to 1,885 bbls. Still gas production during the month amounted to 2,218,818,000 feet, equivalent on a B.t.u. basis to 588,495 bbls. of fuel oil.

Following is a summary of the natural gasoline plant operations for September:

Field—	Gas treated (thou. cu. ft.)	Natural gasoline produced (gallons)
San Joaquin Valley:		
Elk Hills	54,487	121,935
Kettleman Hills	9,642,344	14,763,763
Midway-Sunset	1,420,777	2,287,887
Mountain View	690,949	827,589
Miscellaneous	3,542,342	2,286,180
Coastal district:		
Elwood	740,044	1,019,269
Rincon	133,892	204,709
Santa Maria	167,344	419,508
Ventura Avenue	3,161,556	4,158,915
Miscellanecus	594,874	575,770
Los Angeles Basin:		
Brea-Olinda, Coyote	313,213	1,077,222
Dominguez	1,826,788	2,644,645
Huntington Beach	1,528,187	3,551,049
Inglewood	305,416	439,266
Long Beach	1,533,140	7,048,731
Playa del Rey	267,432	1,014,224
Richfield	221,047	533,602
Rosecrans	383,095	574,986
Santa Fe Springs	2,208,917	5,117,829
Seal Beach	476,699	768,737
Torrance	100,470	233,757
Miscellaneous	859,908	1,658,234
Totals (all fields)	30,172,921	51,327,807

DISTRIBUTION

	(Gallons)	(Gallons)
Stocks beginning of month	2,202,085	
Production during month	51,327,807	
Delivered to refineries		50,035,322
Delivered to jobbers, brokers or blenders		1,108,907
Losses		72,654
Stocks end of month		2,305,848
Totals	53,529,892	53,529,892
		(Barrels)
Liquefied petroleum gas production	1,624,120—	38,669
Motor fuel produced	103,227—	2,458

C. N. G. A. to Hold Annual Meeting on November 16

LOS ANGELES, Calif.—With over 750 expected to attend, officials and committee heads of the California Natural Gasoline Association are busy making last-minute plans for the annual meeting of the organization set for November 16 at the Ambassador Hotel in Los Angeles. Arrangements for the convention are under the chairmanship of B. Douglass Balthis, program chairman of the group and vice president of Natural Gas Equipment, Inc.

Four technical papers will be presented at the morning session. These are: "Metering Gasoline by Positive Displacement Methods," by T. R. Beauchamp, of the Texas Co.; "Truck Gauging," by Warren Kraft, of Honolulu Consolidated Oil Co.; "Physical Constants," by D. A. Smith, of Tide Water Associated Oil Co., and "Liquefied Gas," by C. L. McCartney, of Petrolane Corp. Members will reconvene at 2 p.m. for the featured speech of the day, to be presented by Lester C. Uren, professor of petroleum engineering at the University of California. Doctor Uren, an outstanding contributor to the field, will present "A Discussion of Present Trends and Future Prospects of the Natural Gas Industry in California."

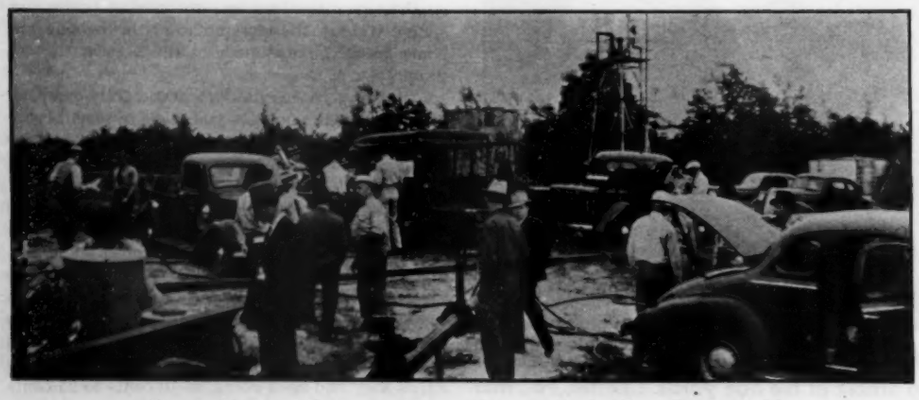
The last paper of the day will be presented by Henry Wade, of the Parkhill-Wade Co., and the Stearns-Roger Manufacturing Co., of Denver, who will speak on "Polymerization." This topic, one of paramount interest to C.N.G.A. members, will receive a particularly thorough treatment at the meeting, as Mr. Wade has spent much of the past year in the construction of plants for the process, and in the study of the subject generally.

The technical sessions will have as their chairman Clare Gard, of Union Oil Co., and J. C. Burks of O. C. Field Gasoline Co., will preside at the banquet.

Gas-Testing Committee Holds East Texas Demonstration

SHREVEPORT, La.—To determine the relative merits of the jacketed or fixed-temperature accumulator and the nonjacketed accumulator when used on standard compression gas-testing equipment, a field demonstration was recently held by the gas-testing committee of the Natural Gasoline Association of America on a lease near Gladewater, Tex. The meeting was the third and last of a series of tests held over the past nine months. Information gained in the three tests will be studied with the view of revising the present gas-testing code.

Norris Plank of Snell Petroleum Corp., Tulsa, was in charge of the tests and Carl Wharton of Hanlon-Buchanan, Inc., Gladewater, Tex., was organizer. Others attending the tests were: L. E. Gutes and L. V. Hopkins, Arkansas Fuel Oil Co.; D. H. Huff, Arkansas Natural Gas Co.; C. M. McKay and E. W. Poindexter, Coltexo Corp.; J. C. Birdsall, Glenrose Gasoline Co.; H. J. DeLatin, C. P. Domangue, Earl McCracken and J. M. Sappington, Gregg-Tex Gasoline Co.; G. H. Kent, H. A. Montgomery and O. W. Olson, Hanlon Gasoline Corp. of Texas; E. E. DeBach, Hercules Gasoline Co.; Earl Gower, G. C. Patterson, H. A. Reaves, R. H. Scheer and H. M. Singleton, Humble Oil & Refining Co.; F. L. Crawford and S. W. Wilson, Magnolia Petroleum Co.; H. H. Beeson, C. S. Rucker and B. E. Raywinkle, Sabine Valley Gasoline Co.; Frank Whayman, Shell Petroleum Corp.; J. W. Bowman, J. C. Cassity and Bill Olson, Sinclair Prairie Oil Co.; C. B. Holmes, Stanolind Oil & Gas Co.; E. E. Cornelius, United Gas Corp., and W. F. Lowe, secretary of the Natural Gasoline Association of America.



Demonstration of gas-testing equipment in the East Texas field

Refinery Projects

Crude Runs in New Italian Plant Held at High Level

NEW YORK.—The new S. A. Tecnico Industriale "Aquila" refinery at Trieste, Italy, has been charging approximately 9,350 bbls. of crude to still daily since the plant was completed and commissioned early this year. Addition of the new "Aquila" refinery to the processing capacity of Italy and modernization and expansion of other plants at Naples and elsewhere are the factors chiefly responsible for a sharp increase in that country's crude oil importations so far this year. During the first eight months of 1937, Italy has imported 576,000 tons of crude, approximately 4,032,000 bbls., compared with 206,877 tons for the same period in 1936. With government protection in the Italian market, the Aquila refinery has experienced no difficulty in disposing of its entire production. The plant is designed to handle only about 7,000 bbls. per day.

Fuel Oil Demand on Pacific Coast Increased in 1936

Fuel oil demand during 1936 in the Pacific Coast territory (California, Oregon, Washington, Arizona and Nevada), increased 2,417,000 bbls. over 1935 demand, and amounted to 90,520,000 bbls., according to data reported by marketers to the San Francisco office of the Bureau of Mines. This increase is relatively small when compared to the increases of 5,153,000 bbls. in 1934 and 8,345,000 bbls. in 1935, and might seem to indicate retardation of the rate of increase in fuel oil demand. However, it appears that the data may simply reflect the effect during the last two months of 1936, of the maritime strike, as bunker deliveries decreased 3,148,000 bbls. in spite of appreciable increases during the first 10 months of the year in both foreign and intercoastal trade.

If water shipments and, consequently, bunker deliveries had not virtually ceased during the last two months of the year, this class of fuel oil demand probably would have shown an increase instead of the large decrease mentioned above, and the resulting increase in total demand would have closely approached, if not exceeded, the average increase made in the two previous years. However, a considerable volume of traffic was diverted to railroads, so that fuel oil deliveries to railroads gained to a greater extent than otherwise and partly offset the loss in bunker deliveries.

Panhandle Plant Acquired By Paward Refining Co.

FORT WORTH, Tex.—The Mid-West Refining Co. refinery located about 8 miles southeast of Shamrock in Wheeler County, Texas, has been taken over by Harry Pace and John Ward of Shamrock, and will be operated in the future under the name of Paward Refining Co. The plant has a daily crude capacity of 750 bbls.

Capacity of Louisiana Plant Is Increased Following Fire

SHREVEPORT, La.—After being partially destroyed by fire, the North Caddo Refining Co.'s plant on the Louisiana side of the Rodessa field has been rebuilt and enlarged. Capacity has been raised from 750 to 1,500 bbls. daily. Daily crude and distillate runs to stills now average 1,200 bbls., it is reported.

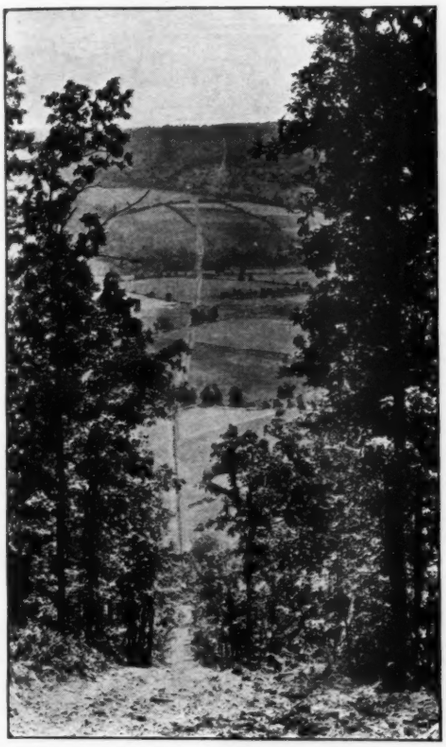
Globe Oil & Refining Shuts Down Blackwell Refinery

The Blackwell, Okla., plant of Globe Oil & Refining Co. was to be shut down this week according to plans of the company on the first of the month. The plant, of 8,000 bbls. daily capacity, has been processing some 5,000 bbls. daily for the past several months.

Pipe Line Activity

Buffalo Gasoline Extension Line Is Placed in Operation

PHILADELPHIA, Pa.—The 225-mile pipe line extension from Williamsport, Pa., to Buffalo and Rochester, N. Y., built to carry gasoline and other petroleum products of the Philadelphia refinery of Atlantic Refining Co., went into operation October 31. The line was laid



Unusual view from a hillside, showing Buffalo Pipe Line Corp. line stretching across the valley and mounting the ridge

by Keystone Pipe Line Co. in conjunction with Buffalo Pipe Line Corp. Both companies are subsidiaries of Atlantic Refining Co. The extension is 8-inch. Terminals are provided at Big Flats, near Elmira and Corning, at Wayland, at Rochester and at Buffalo.

The total expenditure involved in construction of the extension, including erection of pumping stations and terminals, is in the neighborhood of $3,000,000. At Williamsport, Pa., the new line joins the extension built in 1936 by Keystone Pipe Line Co., from its line running from Philadelphia to Pittsburgh.

Louisiana Granted Review on Pipe Line Horsepower Tax

WASHINGTON, D. C.—The state of Louisiana won a Supreme Court review in its effort to uphold validity of a machinery horsepower tax as applied to Arkansas-Louisiana Pipe Line Co.

The court agreed to pass upon a judgment of the western Louisiana Federal District Court, which granted a permanent injunction against collection of the tax of $1 annually for each horsepower of capacity of machinery.

Outlet for Lisbon Producers To Take 7,000 Bbls. Daily

SHREVEPORT, La.—Producers in the Lisbon field of Claiborne and Lincoln parishes, prorated to approximately 40 bbls. daily through reduction of runs by Gulf Refining Co., obtained a new outlet on November 1 when the Lisbon system of Caddo Pipe Line Co. made its first runs.

The company plans to purchase about 7,000 bbls. daily. Gulf will continue to take 5,000 bbls., it is reported. The Grogan firm will continue to pay the posted price of $1.10. To complete its gathering system, the company purchased one lateral line from the Gulf and leased another. Construction of one 10,000-bbl. storage tank has been completed and a second tank is under way.

Because of the outlet problem, the State Department of Conservation in setting quotas for November had cut the Lisbon allowable to 10,000 bbls. daily, a reduction of 5,000 bbls.

Conference on Underground Corrosion November 15-17

WASHINGTON, D. C.—The fourth conference on underground corrosion will be held at the Bureau of Standards in Washington, November 15, 16 and 17, under the general direction of Dr. K. H. Logan, who heads underground corrosion research at the bureau. Approximately 80 papers on various aspects of corrosion problems will be presented by research workers and representatives of industry from various parts of the United States and foreign countries. The conference will be open only to persons presenting papers.

A large number of the papers will deal directly with corrosion problems confronting oil and gas pipe line companies. Since the Bureau of Standards undertook its research work on underground corrosion and began these periodic conferences some eight years ago, the volume of knowledge on preventing pipe line corrosion has increased enormously, and a number of the papers scheduled for the forthcoming conference promise to be valuable contributions to the subject.

Ontario Gas Line Project

KITCHENER, Ontario.—The Otter River Pipe Line Co., headed by A. B. Holmes of Toronto, is submitting to the city of Kitchener and the town of Waterloo proposals for the establishment of a natural gas service. The company is planning to pipe gas from the Brownsville field in Oxford County, where associated interests have developed some production.

Natural Gas News

Oklahoma Commission to Hold Hearing on Lawton Gas Rates

A hearing was set by the Oklahoma Corporation Commission for November 30 on whether rates charged by the Lawton division of Consolidated Gas Utilities Corp. are equitable.

"If the rates are found excessive, it may ultimately lead to a gas rate reduction in several southwest towns," J. B. A. Robertson, corporation commission attorney, said.

The gas corporation mostly serves other companies and the investigation will revolve around the rate charged at the corporation's gates.

The hearing was scheduled by the commission following complaint of citizens and several southwest towns that their gas rates were excessive, Mr. Robertson said.

Only Fletcher and Elgin are served directly by the corporation. Other towns in which other gas companies buy wholesale from Consolidated include Lawton, Duncan, Marlow, Apache, Fort Sill and Comanche.

Zeppelin Company to Build Helium Purifying Plant

The Zeppelin company is reported to have ordered a helium purifying plant built at Frankfort-on-the-Main, Germany, to be ready when the new zeppelin, No. 130, takes the air next spring for her voyage to Lakehurst, N. J. Helium, which deteriorates, will be emptied periodically from the airship containers for purification and be used again. The high cost of helium, which must be purchased from the United States, is the reason for strictest economy.

Lone Star Gas Corporation 1937 Business Improving

PITTSBURGH, Pa.—Lone Star Gas Corp. reports net income for the nine months ending September 30 at $4,548,084, equal to 75 cents a share on 5,537,717 shares of common stock after the payment of preferred dividends. This compares with net income of $4,361,603, or 66 cents a common share, during the same period in 1936.

Net income for the 12 months ended last September 30 was $6,379,086, equal to $1.06 a share of common, compared with $6,108,874, or 94 cents a common share, in the same period the previous year.

The company's retirement of 6 per cent, cumulative preference stock last fall has increased common earnings 5 cents a share for the nine months and 7 cents a share for the year. The company has paid two dividends of 20 cents each thus far this year. Because of its announced plan of three dividends annually, there will probably be another announcement before 1938.

For the 12 months ended September 30, the gross revenues were $21,037,805, compared with $19,396,820 in the previous 12 months. Operating costs, including local taxes, were higher.

Gas Company Leases Town To Insure Storage System

An entire town in Kansas has been leased by the Cities Service Gas Co. for storage of reserve gas supplies. All 57 landowners in Welda, after nine months of negotiation, have decided to rent their property in order that the utility might have free use of the empty wells underneath.

The company, the Kansas City Star says, has contracted to pay landowners 50 cents for each 50 front feet as annual rental. Besides this, gas will be furnished for domestic use at 30 cents a thousand feet. The wells under Welda are to be used for storing reserve gas to insure more constant gas pressure in winter.

Texas Commission Amends Order in Metering of Gas

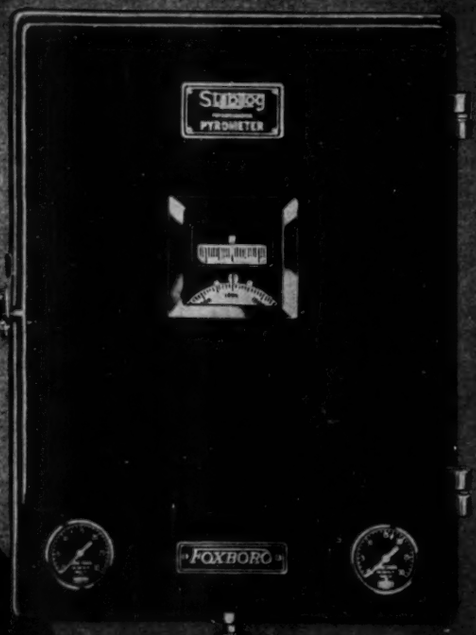
AUSTIN, Tex.—The Railroad Commission has amended its May 15, 1934, order requiring measurement of gas by meters to include accounting for gas previously exempt. The original order required meter measurement of gas when sold and excluded gas sold for drilling purposes in the field and used for lease purposes such as lease houses, boiler stations or treating plants.

Under the new order all gas must be accounted for by measurements or estimation. Gasoline extraction plants and gas pipe lines must report receipts of gas for light and fuel, oil and gas development, and gasoline extraction. Producers of gas not delivered to purchasing companies must report to the commission.

It was provided, however, that gas produced incident to production of oil, where not sold, shall be measured and reported only when ordered especially by the commission. Gas used for development purposes of a temporary nature in the same reservoir, or used for lease purposes such as lease houses, boiler stations, crude oil heating and treating plants, and salt water disposal plants when not sold need not be accounted for by measurement but may be reported on estimate.

The commission said it found an amendment necessary due to legislative requirements and to certain practices "now existing in the operation of gas-producing properties resulting in physical waste."

LIKE A SMOOTH



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At right center is the Stabilog Temperature Controller. Like all Stabilog Controllers it assures control action that is always alert and responsive. Results are what you get with Stabilog Control—whether controlling temperature, flow pressure or liquid level.

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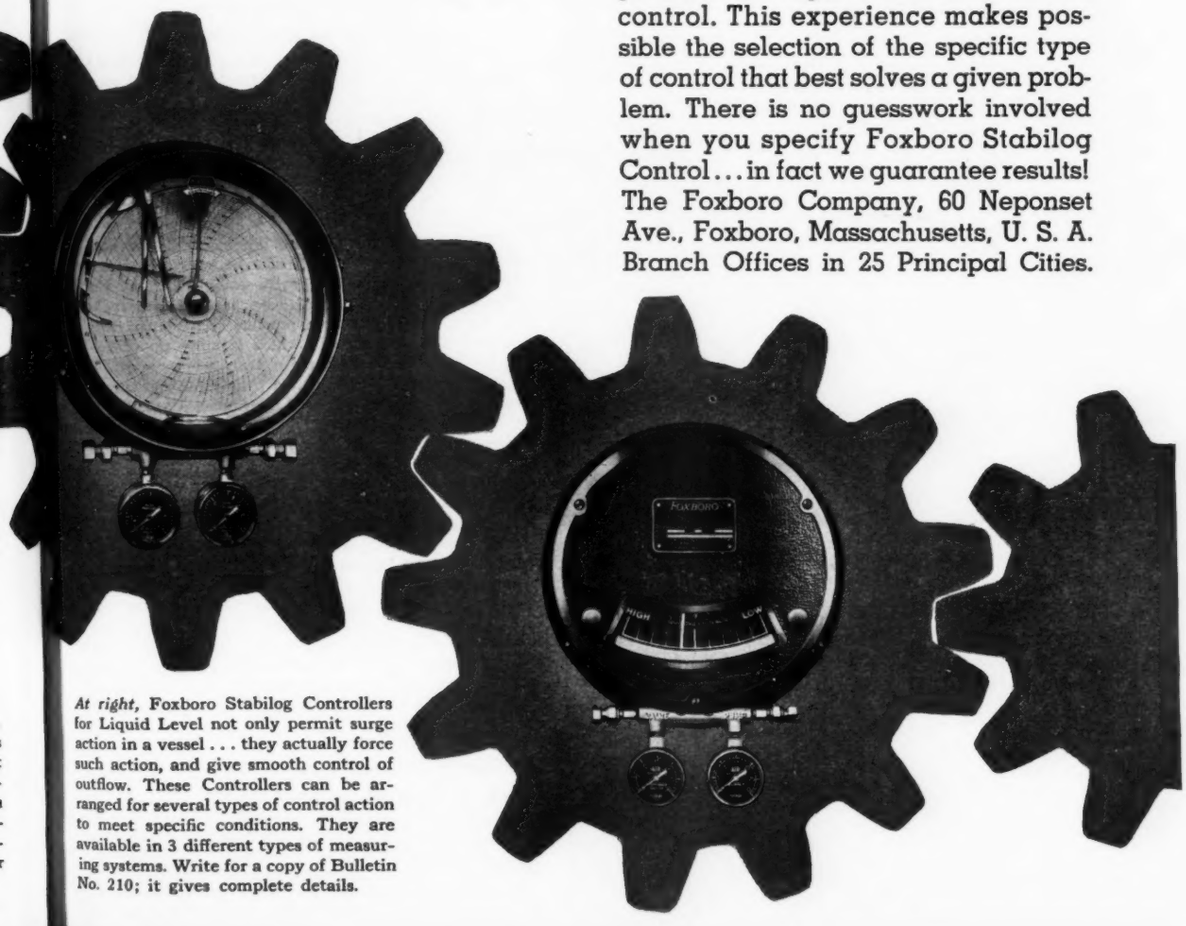


At right, Foxboro Stabilog Controllers for Liquid Level not only permit surge action in a vessel . . . they actually force such action, and give smooth control of outflow. These Controllers can be arranged for several types of control action to meet specific conditions. They are available in 3 different types of measuring systems. Write for a copy of Bulletin No. 210; it gives complete details.

STABILOG CONTROL

Promotions in Carter Oil Personnel Announced by President Lieb

Several major changes and promotions in the executive personnel of Carter Oil Co. were announced the past week by C. H. Lieb, president, who is to leave Tulsa soon for New York to join the staff of the parent company, Standard Oil Co. of New Jersey, as vice president in charge of foreign operating subsidiaries. The changes are effective November 15. Previously, it had been announced that J. J. Conry, executive vice president, would succeed Mr. Lieb as president of the Carter Company.

F. W. Floyd, head of the production department, and L. F. McCollum, head of the exploration department, will be vice presidents under Mr. Conry. Both are directors.

C. C. MacKay, superintendent of the land and leasing division of the Carter exploration department, will become executive assistant to Mr. McCollum, relieving the new vice president of direct supervision of the department.

H. F. Moses, superintendent of the eastern division at Mattoon, Ill., will be transferred to Tulsa as coordinating assistant to Mr. McCollum in the geological, geophysical and scouting divisions.

Rex L. Dawson, who has been assistant to Mr. MacKay, will go to Mattoon to succeed Mr. Moses as superintendent of the eastern division.

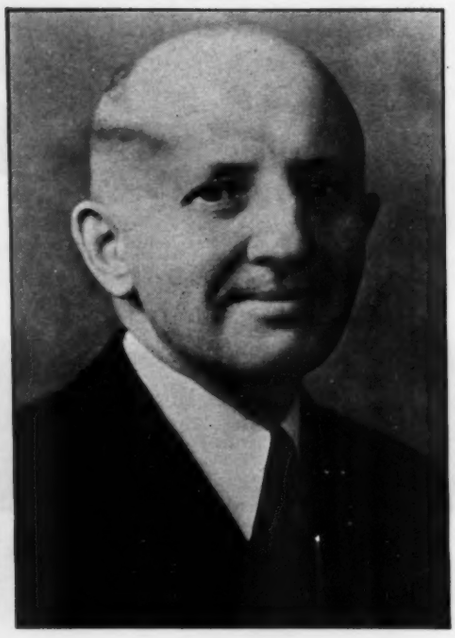
Ralph E. Damp will be transferred to Illinois as superintendent of production. He has been assistant superintendent of the northern division at Ponca City, Okla. M. W. Fuller was named division geologist with headquarters at Mattoon.

L. R. McCOLLUM

Alvin C. Krupnick Co

F. W. FLOYD

C. C. MacKAY



R. L. DAWSON

THE MARKETS*

CRUDE OIL: *With at least four of the principal oil-producing states planning on keeping crude oil production within the Bureau of Mines estimated demand, the outlook for November is considered favorable. If present schedules are carried out, it is predicted there will be a slight decrease in crude stocks during the month.*

REFINERY: *One-half cent reduction in gasoline tankcar prices in northeastern states. Mid-Continent gasoline tankcar quotations reduced one-eighth cent following similar reduction the previous week. Bunker C fuel oil prices reduced 10 cents per barrel at Atlantic seaboard points. Burner oils and kerosene steady to strong. Lubricants weak.*

TANK-WAGON AND SERVICE STATION: *Gasoline prices reduced one-half cent in New York and New England states.*

FINANCIAL: *Common oil stocks recover from year's low of previous week. Average of 30 representative stocks for week ending October 30: High, 32.61, low, 28.14; close, 31.90. Week ending October 23: High, 31.65; low, 24.45; close, 28.80.*

Detailed information in Market Section.

New Jersey Company Distributes $4,000,000 Among Its Employes

W. S. Farish, president of Standard Oil Co. (N. J.), announces the distribution of $4,000,000 out of earnings by the company and its domestic subsidiaries, including Carter Oil Co., Humble Oil & Refining Co. and Standard of Louisiana, among 36,000 eligible employes in the form of credits to their accounts in the company's thrift plan. Last year the company made similar special deposits in the employes' fund of $2,500,000.

"The demand for products during the first nine months points to a generally satisfactory year for the petroleum industry," Mr. Farish explained, "and the directors are naturally gratified that conditions made this additional contribution possible. After two years the total thrift plan fund, which is made up of voluntary contributions by more than 90 per cent of eligible employes, supplemented by regular and special deposits by the company, will approximate $15,000,000 by the end of 1937. We feel our employes are to be congratulated on this splendid record of constructive saving toward their future security."

In the current issue of the Lamp, the Jersey company's official publication, further details on the distribution of the $4,000,000 windfall are outlined.

All domestic employes with a year's service, regardless of participation in the thrift plan, will receive a minimum credit of $50. There will be an additional contribution for the benefit of each participant in the plan equivalent to approximately 22 per cent of his own and the company's contributions during the period from November 1, 1936 to October 31, 1937. More than 90 per cent of the domestic employes eligible—about 32,000 in all—are participants in the thrift plan.

Phillips Purchases Price Holdings in Kraft Pool

C. L. Price of Hoisington, Kans., discoverer of the Kraft pool in Barton County, Kansas, has sold his holdings in that area to Phillips Petroleum Co. The consideration was reported to be $300,000 cash and $700,000 to be paid in oil. The Phillips company has taken charge of the property, including J. Kraft farm in the NE quarter of section 10-17-11w and the Krautwurst farm in SW quarter of section 11-17-11w. Mr. Price opened the pool last April and had drilled two wells for total potential of 4,978 bbls. of oil daily. One well is being drilled on the Kraft farm and one on the Krautwurst lease.

Department of Justice to Examine Records of West Coast Companies

WASHINGTON, D. C.—The department of justice has dispatched representatives from the antitrust division to examine the records of major oil companies on the West Coast. The companies offered their books for inspection.

BRIDGEPORT PORTABLE CABLE TOOL DRILLING UNIT

SAVES TIME-REDUCES COSTS

The Bridgeport Portable Cable Tool Drilling Unit provides an exceedingly economical and handy method of drilling-in with Standard Cable Tools after the rotary.

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Replacing the conventional standard rig, this portable unit is adaptable to any cable tool drilling service, to pumping, to cleaning-out and reworking jobs, to completing rotary drilled holes, and to regular cable tool drilling from the top to the bottom of the hole. Steam, gas, gasoline or diesel engines may be used as the prime mover.

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AND BRANCH STORES

Oil News from Foreign Lands

Gach-I-Qaraghuli Field

The Gach-I-Qaraghuli oil field, southern Iran, is situated some 90 miles north of Bushire and 125 miles southeast of Haft Kel, and is connected with the principal center of the Anglo-Iranian company's activities in Khuzistan by a road through Behbehan and Khalafabad. The field is of a type very similar to Masjid-i-Sulaiman and Haft Kel, the reservoir rock being again a jointed and fissured Asmari limestone of moderate porosity, overlain by crumpled anhydrite, salt, marl, and limestone beds of the Lower Fars series, the attitude of which gives no indications of the position of the crest of the limestone arch below. The line of this crest is, however, adumbrated by the occurrence of a number of gas emanations, which, emerging in Lower Fars strata, produce a peculiar assemblage of secondary sulfate minerals, with characteristic color and odor, the so-called gaj-i-turush, or sour gypsum.

Refraction-seismographic work has delineated an axis very closely coincident with that deducible from this superficial geological phenomenon. The first wells were located on the assumption that the attitude of the Lower Fars beds was more or less concordant with that of the Asmari limestone and proved to be well out on the steep flank. Later wells have been sited in accordance with more recent geological and geophysical investigation.

The general geographical relationship of the Gach-I-Qaraghuli field to other of the Anglo-Iranian company's areas is shown on the accompanying map.

Drilling commenced in 1936 with cable tools. Well No. 1 was taken to 3,641 feet when evidence from well No. 2 indicated that the Asmari limestone was beyond the reach of the outfit in use. Well No. 2 was ultimately taken to 4,521 feet. At 4,228 feet a high-pressure water show was struck which impeded drilling below its final depth. Well No. 3 was commenced in 1928 and was taken to 3,250 feet where a big show of oil was struck, blowing the tools up the hole and jamming them. Well No. 4 was commenced in 1929 and at 2,734 feet met with a high-pressure gas show having a closed-in pressure of 1,990 pounds.

The results of wells Nos. 2, 3 and 4 indicated that the Gach Qaraghuli field was one of high pressures beyond the capacity of the plant in use. For this reason it was decided in 1930 to shut down the area until it was possible to furnish equipment capable of drilling against these high pressures. During recent years, as is well known to readers of The Oil and Gas Journal, great strides have been made in high-pressure drilling technique which, by the end of 1936, permitted the resumption of drilling with a large measure of confidence.

Well No. 3 on the southwest flank of the structure, was cleared of the lost cable tools and deepened to 3,393 feet by rotary, where, at a depth of 7 feet in the Asmari, a large production of oil rated at approximately 33,000 bbls. per day at a flowing pressure of 850 pounds was struck. Wells Nos. 6 and 7 on the northeast flank, which met the Asmari at 3,368 feet and 3,347 feet, respectively, gave productions of 3,000 bbls. and 33,000 bbls., respectively. Further wells are being drilled to delimit the structure.

Trinidad Well

Trinidad Oil Lands, Ltd., announces a third well at Point Ligoure has settled to 60 bbls. per day. The pipe line is completed and deliveries of oil started. This line runs from Point Ligoure to the Shell refinery at Point Fortin, three-quarters of a mile.

Production in Poland

Poland's crude oil production in June this year amounted to approximately 285,985 bbls., a daily average of about 9,533 bbls. As in the past, the Drohobycz field contributed the major portion of production, totaling 194,558 bbls. During the month 10,983 bbls. of the gross production was either used as fuel in the fields or deducted due to impurities making net crude yield of 275,002 bbls. At the end of June, Poland's crude oil in storage totaled 126,168 bbls. The following table shows the gross and net production and storage, in barrels by districts during June:

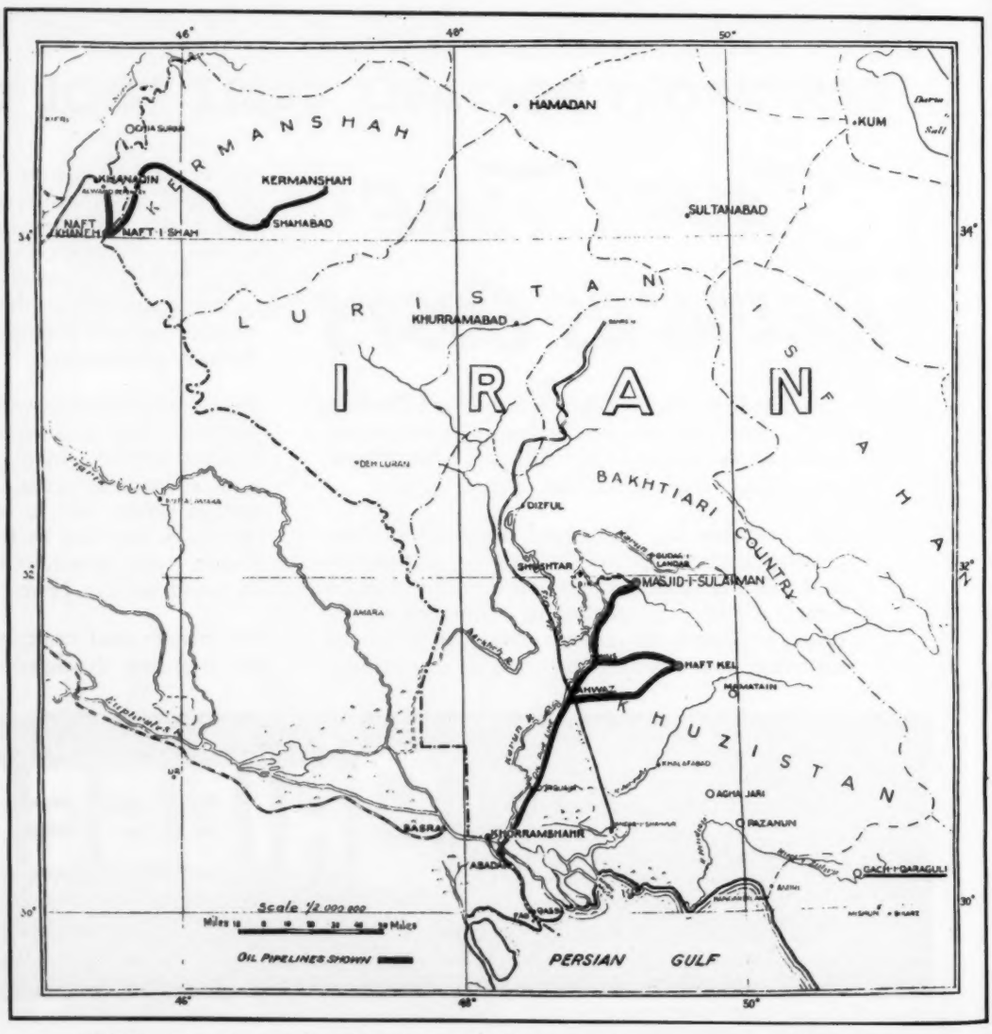
District—	Production Gross	Production Net	Storage
Jaslo	65,464	64,491	24,374
Drohobycz	194,558	185,101	90,587
Stanslawow	25,963	25,410	11,207
Total	285,985	275,002	126,168

Runs of crude to stills totaled 285,859 bbls. during the month and production totaled 224,637 bbls. in addition to paraffin, asphalt, coke and hard greases. Kerosene was the major refinery product derived totaling 85,477 bbls. compared to 56,371 bbls. of gasoline. Gas oil, including diesel fuel and distillates, totaled 38,521 bbls.

The following table shows the production, deliveries and stocks of Poland's refineries, in barrels, during June:

Products—	Prod.	Deliveries Domestic	Deliveries Exports	Stocks
Gasoline	56,371	51,009	30,212	134,064
Kerosene	85,477	27,846	9,380	173,565
Gas oil, etc.	38,521	28,189	7,742	85,827
Lubricating oil	29,652	24,941	6,216	386,778
Paraffin wax	*1,859	*528	*938	*6,196
Asphalts	*2,463	*2,577	*378	*15,833
Residual fuel	18,655	4,011	3,539	96,922
Coke	*281	*10	*50	*504
Hard greases	*339	*417	*2	*618
Other prod.	.....	3,619	28	180,936
Total	†224,637	†130,221	†56,917	†1,058,092

*Figures in metric tons. †Totals inclusive of liquid products only.



Relationship of new Gach-I-Qaraghuli field (lower right) to previous fields in Iran

ENGINEERING AND OPERATING SECTION

Presenting modern developments in operation of producing properties, refineries and gasoline plants, and pipe lines, including petroleum research in the field and laboratory

This Week

MANY TYPES OF PORTABLE DRILLING RIGS USED IN SANTA MARIA FIELD—By T. P. Sanders ..... Page 36

Well depths and field conditions in the Santa Maria Valley field of California are highly favorable to the use of portable rigs so that as a result portable rigs of many varieties are found. General practice is to have all equipment mounted on skids so that each unit can be placed on a truck with all fittings in place.

DEVELOPMENT OF REPRESSURING OPERATION INVOLVES MANY FACTORS—By Harry M. Ryder . . Page 38

The principal consideration in repressuring partially depleted formations is to inject the air or gas at a rate that will drive all or nearly all of the oil toward producing wells. If the rate of flow is too small the energy is dissipated, and if the flow is too rapid the air or gas channels and leaves pockets of oil.

RECOVERING RAFFINATE MATERIAL IN SOLVENT REFINING OPERATIONS—By John W. Poole ..... Page 43

Ways and means have been found to minimize oil losses due to the solvent naturally carrying some of the oil along with it, during the normal solvent refining process. One of the best methods used is to introduce another solvent into the system.

SOAP SOLUTION USED AS LUBRICANT IN GAS COMPRESSOR STATION—By Mitchell Tucker ..... Page 46

United Gas Public Service Co. at its 8,000-hp. gas compressor station in the Rodessa field is using a soap solution to lubricate the compression side of its engines. Air pressure is used to force the solution from the mixing tank to the compressor lubricators.

ADEQUATE FILING SYSTEM NEEDED TO KEEP ABREAST OF INDUSTRY—By Florence W. Lundell ..... Page 50

Standard indexes are available for filing technical data but the systems appear too complicated to be applied to the routine filing of articles pertaining to the ramifications of petroleum field and plant operations. The author has offered a method for accomplishing this without deviating from standard practices.

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Pipe line pump operated by pumping jack. Combination separator and oil-treating unit. Trough for cooling water. Grating installed around well-head to promote safety. Expansion loop installed in flow line.

AVERAGE GRAVITY OF LOUISIANA OILS AFFECTED BY NEW FIELDS—By W. L. Nelson ..... Page 54

Production and properties of crude oils produced in Louisiana remained relatively stable until in 1933 but since then both production and characteristics of the oils have shown great changes. Average A. P.I. gravity and type of crude produced were greatly affected by the discovery of the Rodessa field.

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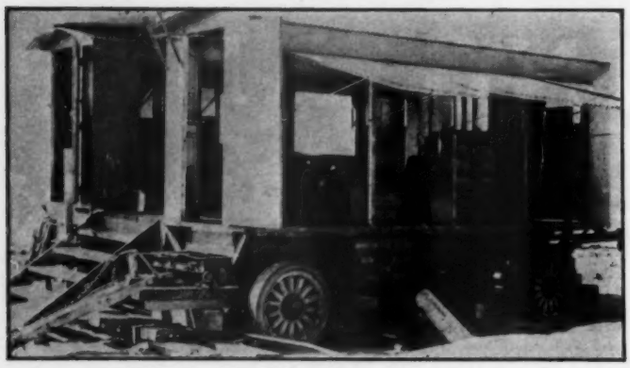


Power generating plant at a portable electric rig. D.C. generators are driven by internal-combustion engines operated on butane. Later equipment of this type is mounted on skids

Many Types of
Rigs Used in

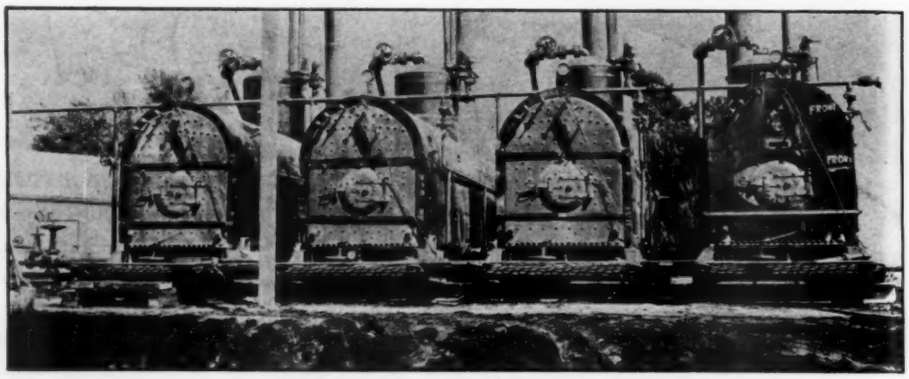
By T. P. SANDERS

Comparatively few years ago portable rigs used in the oil industry were made up of very light equipment, usually mounted on wheels, and designed for drilling only shallow wells. With the rapid development of deep drilling, and the advancement in design of the various types of rotary rigs, the term "portable" has come to include a wide assortment of heavier units, all of which have been designed so that moving is simplified. With these it is practicable to drill to depths greater than 5,000 feet in most areas. Wheels, as a rule, are no longer used on rigs of this kind, though there are conspicuous exceptions. Instead, skids are generally used so that each separate unit can be drawn onto a truck or trailer bed with all fittings in place. Much of the obvious advantage of mounting the equipment on wheels is lost because of the necessity of providing a more solid foundation for the power units and boilers at the drilling site.

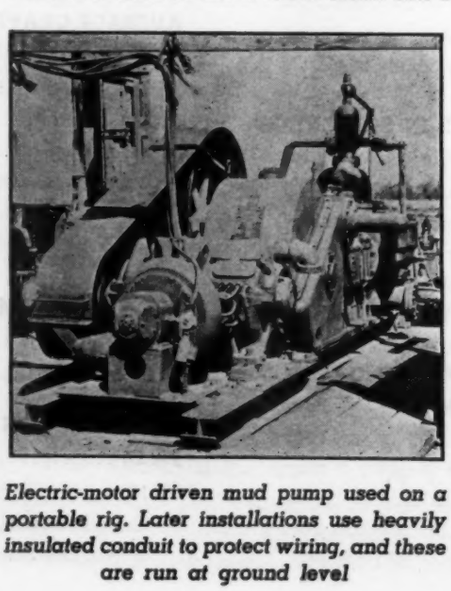
The Santa Maria Valley field of Santa Barbara County, California, can well be cited as an example of the present trends in portable drilling practice, for here portable rigs of practically every variety can be found. Operators were quick to realize that field conditions called for this type of equipment. First, development of the field has been typical of most recent California drilling booms. The great majority of the wells drilled by the oil companies themselves, and the development of extensive acreage is undertaken with a relatively small number of drilling rigs. The advantage of this procedure is that there is no lost time for the rigs. When a well is completed there is always another location at which a derrick has been erected and where drilling can be started as soon as the rig is moved. Under organization of this kind it is natural that the time required for moving and assembling the drilling equipment should become a conspicuous item. Other field conditions favoring portable machines are well depths, ranging from 2,800 to 4,800 feet; and the absence of unusual subsurface conditions, such as high-pressure gas or salt water.

The latest addition to the growing number of portable rigs in Santa Maria Valley took place about October 1, when Union Oil Co. started a well on its Vincent lease with a newly constructed steam rig. Because of the necessity of large heavy boilers, steam drilling is at a disadvantage in regard to portability. However, its great advantages in some other respects cannot be ignored. The type of power delivered by a steam engine, giving maximum torque at low speeds, is most suitable for rotary rig requirements. Also, a steam engine can be stalled without injury, and heavy loads may be picked up off bottom without the necessity of engaging a clutch against a rapidly running engine.

On the new steam rig efficiency of operation has not been sacrificed for portability. The boilers are fully insulated. This feature is uncommon on portable rigs, and it is usually considered too difficult to move boilers with insulation intact, and too much trouble is involved in applying the insulation at each location. On the new boilers, however, the insulation is enclosed by sheet-metal jackets which prevent it from breaking off in moving. The additional weight is not noticeable, and the insulation not only reduces gas consumption but also increases the maximum delivery from the plant. Each boiler is mounted on skids so that it can be drawn onto a truck. At the drilling site the skids are bolted together to form a foundation for the boiler plant. Piping and fittings are left on the boilers during moving. Gas, water, and steam lines between the units are left on one of the end boilers so that they can be swung into place and connected by means of flange unions at the new location. Since the skids can only be placed together in one position to form the foundation, there is no danger of a misfit in the piping. Stacks are moved separately. Boiler-feed pumps are mounted on skids together with a water-supply tank in which lime-soda treatment of feed water is carried on. Water available for drilling in the locality requires this treatment because of its hardness, and the tank is also useful in keeping an emergency supply of water on hand for cementing operations.



Boiler plant for new portable steam rig. The boilers, mounted on skids are moved with the insulation and fittings intact. The photograph shows part of the insulation removed

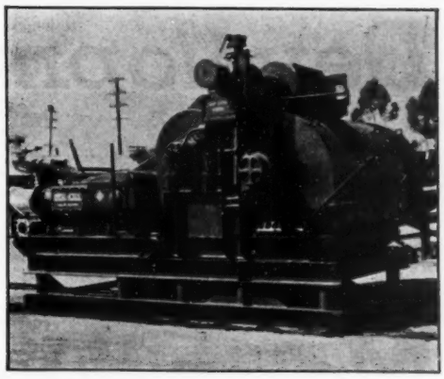


Electric-motor driven mud pump used on a portable rig. Later installations use heavily insulated conduit to protect wiring, and these are run at ground level

Portable Drawworks

An especially good example of modern designing of portable equipment is furnished by the drawworks in use on Union's new rig. It is a compact unit built on skids as a base. An auxiliary drum situated back of the main hoist-drum is used for spooling the sand line. The sand line is used for running a wire-line core barrel, in keeping with usual California drilling practice. The twin-cylinder steam engine, which drives the drawworks and the rotary table, is also mounted on skids. At the drilling location both the drawworks and the steam engine are placed on a large steel platform, the base of which is formed by skids. The two units are bolted in place on the platform and the connecting chains are installed. The complete assembly is then drawn into place. The derrick floor is notched so that approximately half of the drawworks lies within the derrick's base, as is customary. For the sake of stability the steel platform rests on a concrete pad. In moving, the drawworks, engine, and platform can be transported in three separate pieces, or the entire assembly may be moved in one piece if desirable. The two mud pumps have also been assembled into one unit mounted on skids. Piping, which is built into this assembly, permits flexi-

Portable Drilling in Santa Maria Field



Drawworks and twin-cylinder engine mounted on skids and bolted to a steel platform which is also provided with skids. This is part of Union Oil Co.'s new portable steam rig in the Santa Maria Valley Field

Portable steam rig on a long-distance move. An auxiliary drum for running a wire-line core barrel is included in the drawworks

ble operation of the pumps, such as compounding, or using them in any manner desired. Most of the piping, valves, and other connections are under platforms made of steel grating. This results in neat appearance and a distinct safety feature. All steam connections on the pump assembly are insulated. Steam lines and mud lines at the derrick are connected to the assembly by means of single-bolt couplings. In short, every perceptible step has been taken to make the moving and rigging up of the new equipment a routine matter. Since it is set up the same at each location it tends to resemble an efficient plant rather than miscellaneous equipment.

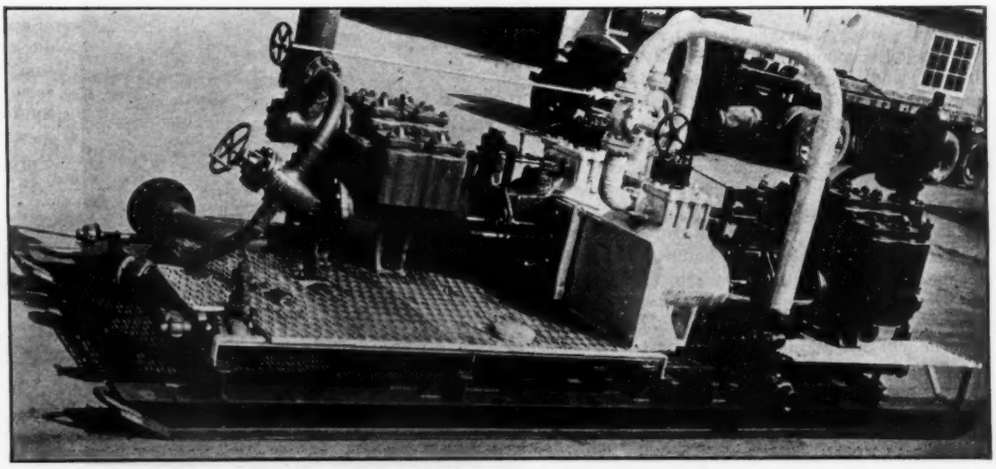
A rig in the vicinity powered by internal-combustion engines has the very noticeable advantage of greater portability, since there are no boilers to move. For this reason internal-combustion rigs, operating on gasoline, natural gas, butane, or sometimes diesel fuel, are especially suitable for wildcat wells and for the shallower wells drilled in mountainous terrain. The system of using two engines, one for the rotary table and the other for the mud pump, and compounding these for operating the hoist, has greatly increased the popularity of internal-combustion engines for drilling. Their fuel consumption is low, and the type of power delivered, giving maximum torque at high engine speeds, meets requirements for driving the rotary table and mud pumps under steady drilling conditions. However, since this type of power is at a disadvantage when it comes to picking up heavy strings of drill pipe off bottom, the use of these machines for deeper drilling is limited.

Portable electric rigs, some operating on purchased power and others generating their own power, are found in Santa Maria Valley. Two generated-power rigs of the same type, one of which is new while the other is seven years old, serve to illustrate recent trends. Each rig uses two internal-combustion engines operating on butane to drive D.C. generators. Each engine-generator set forms a unit and is moved independently of the other set. On the older rig each of the units is mounted on a trailer, which has hard rubber tires. These trailers are blocked up when in use at the drilling location. On the new rig the engine-generator sets are mounted on skids. In either case the two sets are placed side by side to make up the power plant. Improvements have been made in wiring on the new rig, so that a minimum of the electricians' time is required in connecting up the units. Heavy insulated conduits are used, joined together by means of street-car plugs to give safe, positive connections. Much thought has been given to the safety of these rigs. Air blowers are driven by the exciters at the drilling and mud-pump motors. These draw in fresh air and blow it through the motors, partly for cooling purposes, and partly to prevent gas or dust from accumulating where it might be ignited by a spark. The switchboard is also equipped with a blower which maintains sufficient pressure inside of the case to prevent the entrance of gas. Both rigs are operated under the Ward-Leonard generator voltage-control system, which gives essentially the same power characteristics as a steam drilling rig. The motors are capable of developing high torque at low speeds, and they can be stalled without injury.

Loading an insulated boiler with fittings attached onto a truck. Insulation is encased by sheet metal to prevent it from breaking off when being moved to a new location

A purchased power rig in use at Santa Maria is seen to offer greater advantages in portability than the generated power rigs. Its use, however, is limited to locations where electric power is available. Torque characteristics are similar to those of internal-combustion rigs. The transformers, switchboard and other electrical equipment are mounted on a trailer, parked near the power line from which the electricity is taken. It is not necessary to block up this unit when in use, and it is easier to move than the generator sets of the generated power rigs. Mud pumps and other motor-driven units are equipped with skids. The method of running the power lines into the location is now thought to be of considerable importance by many operators. Some believe that the conduits should be buried for a distance of 100 feet or more from the derrick to avoid mishaps. Their contention was borne out recently when a California well caught fire causing the derrick to melt down. In falling it took down the overhead power conduits leading to a drilling well nearby, causing stuck drill pipe.

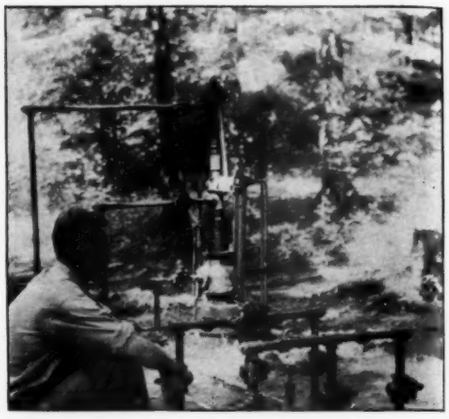
It is now evident that a productive area of great extent exists in the Santa Maria Valley. E. H. Moore No. 2 Union Sugar, which was completed successfully 2 miles west of production, indicates that considerable drilling will be necessary to determine productive limits in this field.



Mud-pump assembly used on new portable steam rig. Steam lines are insulated and most of the connections are located below the platform for convenience and as a safety measure

Development of Repressuring Operation Involves Many Factors

By
HARRY M. RYDER
Ryder Scott Co., Bradford, Pa.



Pressure well in Ohio County, Kentucky

Producers conduct air and gas repressuring operations on their properties for one reason only: to produce more oil and thereby to increase profits. Consequently, it is the desire of no producer to practice repressuring in any other manner than that which will be to his greatest advantage.

However, on account of the rather complex principles involved the producer soon finds, when he starts repressuring, that he has embarked on an entirely different type of enterprise from that to which he has been accustomed. No longer when he drills, is his primary concern whether or not he will "hit the pay." No longer is his entire interest in his producing operation limited to keeping his wells pumping and just sufficiently.

He immediately finds himself confronted with numerous new and often baffling questions. What pressures should I use? Where should packers be placed? Where should pressure wells be located? How many should I have? How many feet of air or gas a day should I inject?

Initial Operations

All these and many more really vitally important questions present themselves with the installation of the first compressor. And it is a fact that the proper answers are not always easy to find. Sands vary and frequently greatly, not only from area to area, but in one field, in one pool from location to location and from top to bottom. Cores are sometimes taken, and laboratory reports and charts prepared. But are all the answers found here? Can the producer experienced in natural production turn to such reports and find in these the solution to his problem of really competent repressuring?

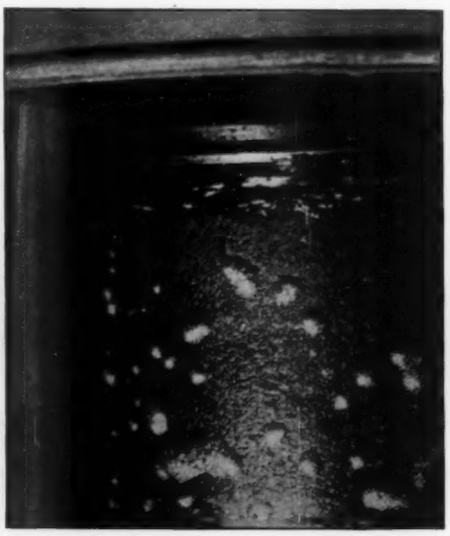
To be efficient, a repressuring operation must make it possible for an operator to produce all the available oil economically possible in the selected territory, and at a reasonable cost. This in many cases will mean that a repressuring operation will result in new production as great over a few years as the original flush production, sometimes greater. It is not difficult for a producer now repressuring to examine his production records and to determine for himself just how long it will take, using his present methods to accomplish a production of this magnitude. In many cases an examination of this sort will reveal that he must operate for many years at his present level, which is not ordinarily possible, to reach such an accomplishment. Often he will find that if things go on as at present he will never attain it.

Just what must he do, then, to assure himself that he will obtain the extra 1,000 bbls., or 1,500 bbls., or 2,000 bbls. of oil per acre to which he may be entitled by the nature of his pay sand and the oil it contains? He must do this: *Sweep all of his pay sand, or as nearly all of it as is economically possible, with a flow of air or gas, at velocity neither too high nor too low, and toward producing wells.*

To accomplish this is not so simple but it pays well. First of all, the flow of air or gas, as it radiates from the pressure well, will spread over a rapidly widening area, and its velocity will be correspondingly rapidly reduced. This must be controlled. Again, and just as important, the air or gas, if it has the opportunity, is perfectly willing, and even anxious to move into extended areas of low pressure between and beyond producing wells, and much of it often never does reach the producing well until long after its velocity is reduced to the point where it will not carry its pay burden of oil. The result is a serious loss of what might otherwise have been available production, and a consequent considerable loss of income.

The term "repressuring" is somewhat of a misnomer as applied to the usual secondary recovery operation in which gas or air is the driving medium. True repressuring occurs only where all producing wells in a pool are shut down and the casinghead connections closed during an extended period, sometimes lasting for years, while the rock pressure in the sand is being built up by gas injection. In such cases, when the producing wells are again operated, the action is much the same as occurred during flush production, probably at a somewhat lower level and is primarily due to the new static pressure developed throughout the pool.

In the usual case, however, the operation of the producing wells is not interrupted for economic reasons and flow develops almost at once between the pressure wells and the producing wells. In this case the increase in production is due primarily to the *flow* of air or gas. The pressure itself, concentrated near the pressure wells, merely enables this flow to take place. This method might more properly be referred to as secondary recovery by "flow." We will, however, continue to refer to it as repressuring since it is so well known as such.



Laboratory test of oil sand for determining repressuring efficiency

Factors Involved

The difference between the two methods may appear to be of minor importance, but in fact it does make all the difference in the world when a repressuring operation is to be laid out and operated. The procedure best adapted for the usual "flow" operation would be very uneconomic if applied to a real "repressure" operation, and the reverse is just as true. It is probably correct that the limited success of many repressuring projects is due in a great measure to the fact that the plan of development is best adapted to the pressure method, but that the flow method is actually used.

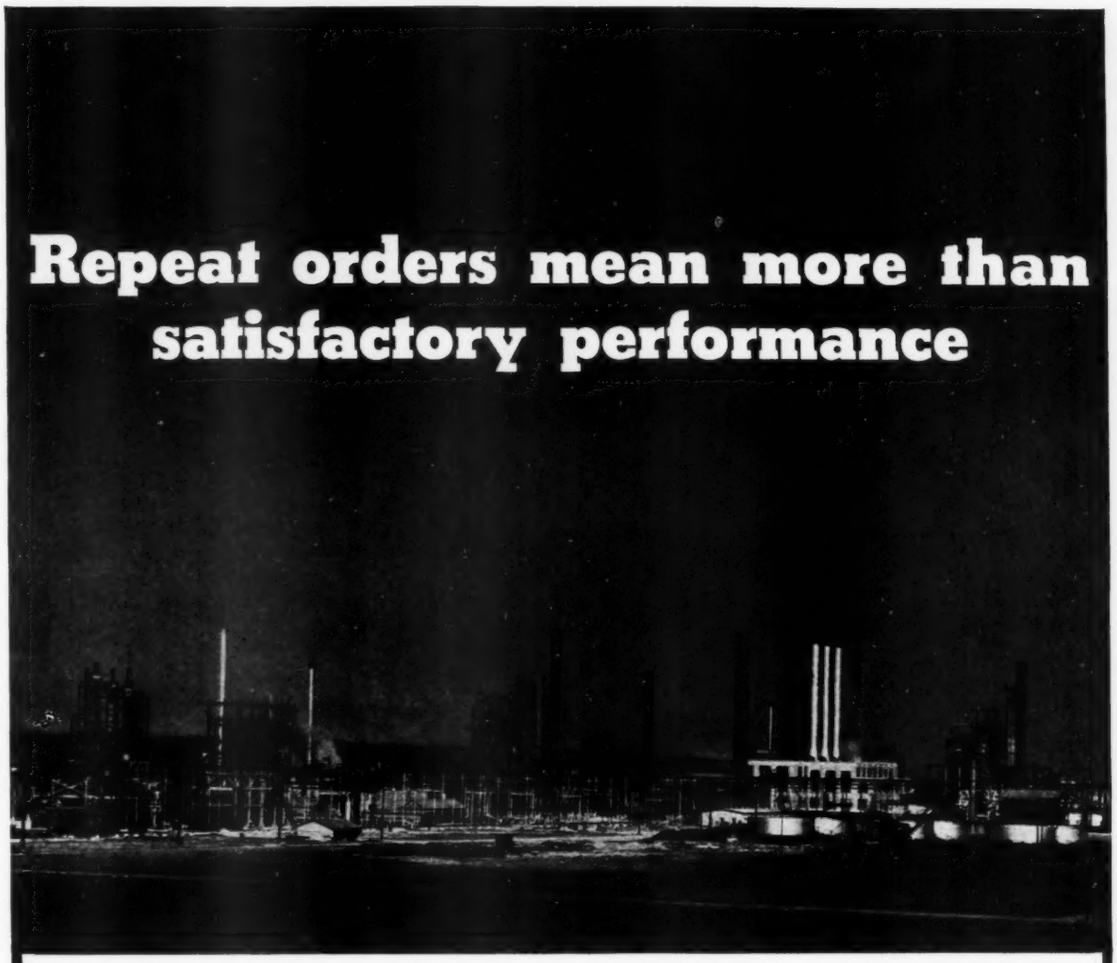
Since it is often important, or perhaps a royalty requirement, that the income be uninterrupted, the common or flow method will in all likelihood continue to be most generally used. The presence of a number of interests within one pool will in most cases force the same decision, as will often the likelihood of greatest ultimate profits.

To properly develop this type of repressuring operation then, so that the flow will be maintained at a proper level, and always moving in a not-too-devious path toward producing wells, it is *essential* that due consideration be given to all pertinent factors so far as possible. These factors include the following:

1. The geography of the area, as disclosed by a property map.
2. Present well locations.
3. The pay sand thickness as disclosed by existing well logs.
4. Sand structure.
5. Limits of production for the entire pool.
6. Information disclosed by cores:
   - A general stratification study.
   - Permeability at many points.
   - *True* saturation at many points.
   - Porosity.
   - Continuity of pay strata.
   - Continuity of breaks.
   - Special investigation of unusual conditions such as abnormally high permeability streaks.

(Continued on Page 40)

Repeat orders mean more than satisfactory performance



When a refiner orders additional cracking units several times from the same organization it proves beyond question that the design, construction and operating efficiency of the equipment was satisfactory in every way.

It does even more than that—it proves that the design was economically sound—that it helped the refiner to balance his output to meet marketing conditions—to get a larger volume of *profitable* business.

A large part of The M. W. Kellogg Company's business is re-order business from satisfied customers.

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7. Viscosity and tackiness of the crude oil.
8. Adherence of the crude oil to the sand.
9. Total oil content of the sand.
10. Recoverable oil content.
11. Cost of drilling and completing wells.
12. Crude oil price structure.

With this information at hand, the first important job in our development of an efficient repressuring operation will be a careful analysis of all of the data. From this examination, considered in the light of previous experience and a knowledge of the fundamental behavior of air, gas and oil in sand, will emerge several fundamentally basic conditions on which the actual repressuring layout will be built.

These include:

1. The absence or presence of any preferential trend in the flow through the sand.
2. The direction and extent of this trend if it is present.
3. The economically best well spacing.
4. The economically best drilling pattern.
5. The probable maximum pressure necessary.
6. The probable average air or gas input per well.
7. General information regarding the need and use of intermediate packers.
8. The need for additional coring.

In practice, several considerations interfere with the theoretically perfect layout. The first is, of course, the normally perverse tendency of sand to change its habits suddenly, and at unexpected points. This is readily realized when one studies for a little while a sand bar in a river or lying along a shore, and gives thought to the uncertainties of the conditions which control it.

Locating Property Lines

Another important consideration involves the presence and location of property lines. These have been determined with no thought, and generally with no knowledge of the condition and position of the sand. But they are very real. Even though one operator may control the oil on both sides of a given property line, the royalty is usually separately held, and in fairness to the royalty owners, as little oil as possible must be shoved across the line. The same result may frequently be obtained by balancing the amount moved across the line at one point with an equivalent amount moved in the opposite direction at some other convenient point. This latter method frequently simplifies the problem of property lines, but it is generally far from being eliminated.

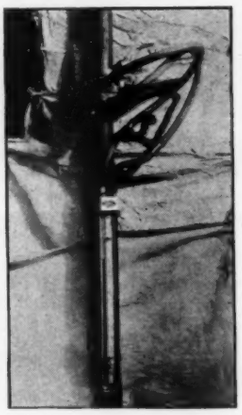
Still another important consideration lies in the location of existing wells. If wells could be located at the time a pool is opened with an eye toward repressuring, this problem could be considerably simplified. Usually, however, this is not the case. The existing wells represent a considerable investment. It is an important part of the job of the repressuring engineer to conserve this investment as much as possible and to put it to work profitably for the repressuring operation. In general, only in this way can the greatest net dollars result from the effort.

In some operations, especially in some waterflooding projects, all old wells have been plugged and the wells used for repressuring have all been newly drilled. This is a happy situation for the engineer, as it simplifies his problem enormously, and in some cases he may be able to show a greater recovery of oil per acre. Generally, however, the eliminating of all old wells cannot be economically justified, and in many cases the extra capital investment just can't be justified, or perhaps may not be available.

Ordinarily then, the engineer must accept the locations of existing wells, and not only make the best of them, but where possible put them to good and efficient use.

At times, probably more often than otherwise, cores are not available when the engineer is asked to make his layout. These cores, or their near equivalent, sets of chip samples, are really an essential tool if the engineer is to do his best job, and in any event, if he is to proceed with the development without a considerable amount of costly field experimenting.

The suggestion has been made to "Make your mistakes in the laboratory rather than in the factory." This applies with special emphasis to the economics of profitable repressuring. Cores can be so taken and tested today that many costly field blunders can be avoided by this means. It seems worth repeating, however, that these cores must be competently taken, at properly selected strategic points, and that the laboratory analysis must be competently achieved. Lack of careful observation and competent records taken on the derrick floor at the time of coring have ruined the possibilities of the greatest usefulness of many cores. Similar lamentable results have been obtained from amateur or other laboratory work of limited competence. In general, coring without thoroughness is almost worthless.

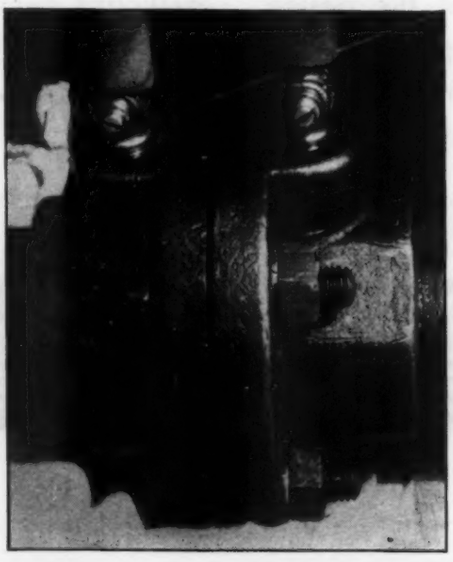


Low-cost orifice is service with hose connected manometer

Coring is expensive, but considerable competent coring is also a guarantee of greatly increased profits, possibly of *all* of the profits where repressuring is concerned. Because of the cost, a more economical substitute, the taking of chip samples, has been developed, which in many cases will provide the engineer with all of the information he needs in order to proceed on a proper basis. Some cores are generally needed in each pool. However, after the knowledge of certain sand characteristics has been developed, subsequent drilling will usually reveal all necessary data by the use of the chip sampling method, and in this manner much expense can be eliminated. This method of sampling has been previously discussed by the writer.

And as regards saturation tests. If these are accurate, they tell much more than the total barrels of oil per acre in the sand. This bit of information is nice, but we all know that we cannot get all of this oil into the tanks to sell. It is just as true that there is no specific percentage of this oil which we can figure for all cases as being available.

Actually, the oil available to proper operation is the difference between the *total oil* we find in the ground and *that amount of oil which the sand will retain* in spite of all of our efforts to remove it. The first figure we determine from our saturation tests of good cores or chips. The second we find from actual flow tests in the laboratory. Except for major pocketing, the difference we are able to get provided we maintain the proper flow properly directed through all of the pay sand.



Effective low-cost orifice flange coupling

Saturation tests then do, if we can read the language, tell us how much oil we can expect to get. But they tell us more. If the saturation is high, the gas flow is thereby lessened, and higher pressures may possibly be necessary. In such cases it may be necessary to interpret flow figures differently. For instance, air pressure may be working perfectly against a high saturation, but the actual flow may be so low that the operator feels that nothing is going on and in his desire for results may resort to unwise and possibly disastrous procedure. In any event, the gas-oil ratio at the producing well will be lower, under proper operating conditions, when the saturation is high, and these figures must therefore be considered in the light of the saturation status.

Accurate saturation figures tell us still more. They tell us in just what strata the oil lies that we can expect to get. Just because sand shows some oil does not mean that we can get it out, or any of it. If the saturation is below a definite critical figure, the value depending upon the sand, oil, and recovery method used, we can't get the oil out, no matter how we may try. It may look like a lot of oil, especially if the sand thickness with this condition is considerable, and we may dislike very much to pass it up, and therefore we spend money in our efforts to get it. But it will be of no avail. We can't get it at the present state of the art and we might as well be reconciled to the fact and save our money.

Porosity Measurements

We have just recently completed the analysis of a core in which some 18 feet of the sand showed a total content of well over 2,500 bbls. per acre of high priced oil. The sand looked nice, but this oil is not obtainable, so that the sooner its presence is forgotten the easier it will be on the mind and pocketbook of its owner.

Since permeability and porosity measurements are necessary for the proper interpretation of saturation, and since permeability measurements are further essential to the determination of pressure values and of air and gas distribution in the sand bodies, these too must be accurately determined. Approximate and short-cut methods are not sufficient. In spite of the well-known variability of sand bodies these measurements must be accurately made. The best transferring by the engineer of this work into increased profits cannot be accomplished otherwise.

With these accurate analyses available, the engineer is in a position to arrange his plans for the development of the repressuring operation, to closely estimate the equipment and costs involved, and to make a fair estimate of the minimum amount of oil which may be expected from this work. As experience in a particular locality accumulates, this latter estimate may be made with more and more confidence and accuracy.

The drilling which may be incident to the carrying out of this development will yield additional valuable information on sand conditions. Certain adjustments in the plans may be necessary from

The Harvest is Hard Won

To each of us the other man's business seems easier. We look at the farmer and think that there is a man who works with the good earth and reaps what he sows. We forget that seed may be infertile or untrue to strain; that only through eternal vigilance and persistent good fortune may the farmer's crop survive the tares and come to profitable harvest.

We look at the oil man and think that his business must be a rose with few thorns. We forget that he, too, reaps his golden harvest only through intelligent husbandry and that same eternal vigilance and good fortune.

But to the end that what the oil man sows may be fertile with expected results and of purest strain, there is no compromise with Quality at Frick-Reid Stores; no choice between good and makeshift.

And the loyalty of Frick-Reid customers is reflected in the loyalty of Frick-Reid Stores, maintained alike in new fields and old.

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time to time as this information is received, but unless the data on which the original plans were laid was of a very sketchy nature, these changes will be of a minor degree.

With the completion of the installation of the compressors, lines, pressure wells, etc., the work of the engineer is not done. A very important phase is, in fact, just beginning. The setup is arranged, the compressors are started, the air or gas begins to move into the sand and on its way to deliver oil to the producing wells, and therefore money to the operator. The job from now on, as long as sufficient oil is produced to pay expenses, consists in keeping the fluid movements under control, and moving in the most efficient manner that circumstances will permit. The carefully designed and executed arrangement is the foundation on which the operation is built. The efficient carrying on of this operation is just as important as having the foundation correct.

Obtaining Data on Gas Flow

The operator must know at all times, as the operation progresses, where and how fast the air, gas, and oil are moving in the sand bodies. He must know this in order to keep his whole operation under control and in this manner to reap the benefits to which he is entitled. Furthermore, it is possible and economically practicable for him to know this. He must, however, have more information available than he can obtain from pipe line runs, a pressure gauge or two, and occasional manometer readings on his pressure wells.

He needs, and can get, at an expense which is trifling compared with the benefits to be obtained the following periodically gathered information so long as the operation proceeds:

1. Individual oil production from each well.
2. Gas or air gas flow from each well under normal operating conditions.
3. Air content of above, if air is used.
4. Occasionally CO_2 content of above if air is used.
5. A continuous chart record of the pressure and flow of all the air or gas delivered by the compressors.
6. Manometer flow readings on each pressure well, and their individual pressures.
7. Pressure on the gas gathering system and on any parts which are separately controlled.

A knowledge of the amount, location and pressure at which everything is entering the sand is now at hand, as well as a similar knowledge of all that is coming out. With this information, coupled with the knowledge of the sand itself as obtained perviously, the engineer can construct charts of the flow throughout the area affected. He is now for the first time in a position to competently control this flow, to slow it down, speed it up, or to redirect it as may be necessary, in his campaign to produce the best possible results.

To practice this control one or more of a number of things may be done. First of all, the amount of air or gas permitted to enter any one pressure well may be adjusted by the throttling of the line at this point. This is an important means, and the one most generally used. Again back pressures on producing wells may be applied, increased, or decreased as circumstances require. When this is practiced, it is important to select a definite back pressure, and then to know that this is being applied. In general, limiting the pumping of the well in question is a poor method of applying the back pressure, as the extent of this application is necessarily so very uncertain. It may, and has helped, but except perhaps as a preliminary approach to the job it is not to be generally recommended.

The placing of a restriction in the casinghead connection is another uncertain way in which to accomplish back pressure. Here the back pressure is dependent entirely upon flow through the restriction, pretty much an unknown quantity, and the extent of the back pressure is entirely unknown unless a pressure gauge is placed at each well. It is well to remember, if this latter is done, that the usual low-pressure gauges are generally unreliable in their lower ranges.

Pinching in of a stop on the casinghead connection is a variation of the back-pressure method just described, and is almost as bad, although it does have the advantage of simplicity of adjustment. Where a number of wells connected to the same gas line are to be kept at a common back pressure, the pinched in valve, with a good gauge permanently installed may work out reasonably well, but for individual wells, individual gauges need to be used, as a practical measure, and the frequent adjustments necessary make the control cumbersome, and not likely to be accurately maintained by the usual pumper.

Back-pressure valves are very good, and practical for controlling a group of wells, but are ordinarily too expensive in most instances for individual well control. A variety of pop valve may in some instances be practical for this purpose.

The remaining method of control, that of raising the fluid level to a known point in the well is very reliable, but somewhat of a nuisance, in that the position of the working barrel, or at least the flood nipple, must be changed for each change in back pressure desired. This involves a tubing job which, too, costs money. The method of applying back pressure must then be determined by individual circumstances, and that decision will rest largely on the item of cost and the cash benefits to be derived therefrom. The amount of oil a well is permitted to produce may in some cases be a useful means of fluid movement control, aside from back pressures but ordinarily we want all the oil we can profitably get.

Occasion arises when it is necessary to change a producing well into a pressure well, or vice versa, or even to drill one or more new pressure or producing wells. In each such case, as it arises, the costs involved can usually be checked against probable benefits, and the desirability of such procedure established. The placing or readjusting of intermediate packers is at times necessary to proper fluid flow control. This, too, is determined by circumstances. If, then, the operator knows how the fluid movements in the sand are proceeding he can, by the competent use of the devices considered above, with possibly some others, keep this movement pretty well under control; and in this way he can produce the greatest benefits.

Measuring Gas Input

Let us consider the means of measuring the input and the delivery into and from the various wells in a practical manner. First of all is a combination recording flow meter and pressure gauge at the compressor station. This is not a low-priced device, but it is very important. It is on duty 24 hours a day and leaves a permanent record from which can be competently deduced almost everything that has gone on with respect to the pressure system. It is a real watchman on the job, and cannot be "faked." If the plant is down, the meter records the fact. If a line breaks, that fact too is recorded. If the valves have been changed, that is indicated, or a well suddenly blows through, we know that. A steady meter indicates smoothly operating wells. A sudden change usually indicates that investigation is immediately needed somewhere. A glance at the meter will therefore ordinarily give an excellent bird's-eye view of the pressure side of the operation, and in this way it saves much time and money. It corroborates the performance of a good man. It detects quickly a poor one. In fact it is one of the most important of the aids to efficient operation.

Ordinary manometers and orifice plates are satisfactory for use at each well when used in conjunction with the plant meter discussed above. The revolving type of orifice plate is not necessary, although convenient. Recording meters at each pressure well are sometimes used, and are very useful, but not necessary. It is important, however, that the orifice flanges be properly installed with sufficient straight pipe on each side if their readings are to be accurate. A pinched-in valve near the orifice may cause serious error. Where the orifice is installed close to the compressor, the pulsations may throw the record way off. These conditions are all well known and can be easily avoided, but they often are present in repressuring systems.

Where pressure wells are "pinched in," pressure gauges should be permanently installed so that the pumper may readily see as he makes his rounds that the valve setting is satisfactory or, if it is otherwise he may correct it. These gauges will simplify his job, too, of locating the changed condition as it may be indicated on his flow meter at the compressor plant.

With these devices, proper valves, and a convenient connection for testing the gas, if air is used, the means for properly controlling the pressure system is complete for efficient operation.

Metering Oil Production

As regards the producing wells, it is exceedingly important that the production figure for each well be periodically obtained. The pipe line statement will give the record for the lease, it is true, and this is important, but when a change occurs in the runs it offers no indication as to what well or wells were responsible. Only by individual well production records can we know where the oil comes from, what part of the lease we are depleting, and where to look for changes that may be necessary in operating technique. In many cases, the cost of gauging equipment and of gauging does return a handsome profit for no other reason than the indication it gives to the operator as to the condition of his producing wells.

For this purpose meters are available. In territories where the oil is sufficiently clean, and free from floating paraffin, they will no doubt work satisfactorily. They, are however, expensive. Generally too much so to install one for each well, or each two or three wells. The necessary frequency of gauging makes the possibility of carrying a few meters around from well to well appear to be entirely too cumbersome and time consuming.

The practical alternative lies in small receiver tanks, one for each well, or as is often satisfactory, one for each group of two or three wells. For repressuring purposes it is not satisfactory to continue to use one or more portable tanks dragged from well to well as, again, this is too cumbersome. In some sections the practice is current, and at times necessary, to force the oil uphill away from the wells. In such cases, the emptying of the small tanks presents a problem. Often it can be satisfactorily solved by relocating the run tanks, placing them at a low point or at low points on the property, and in this way permitting the small tanks to gravitate into the stock tanks. Where this is not possible, the only alternative is pumping. Sometimes "strong-arm Johnnies" are installed in the line and operated from powers. In other cases it is best to install small engine-driven pumps at low points.

The practice of pumping the oil into a gauging tank at the well and then returning it into the casinghead is not satisfactory for repressuring operations. Wells generally do not produce the same amount of oil each day. To take one day's gauge may result in very misleading figures. An average of four successive days' gauges is the minimum safe to use for accurate work, and at times more gauges than this are necessary. To run each day's production back into the casinghead is therefore obviously out of the question, aside from the dis-

(Continued on Page 49)

Recovering Raffinate Material in Solvent Refining Operations

By JOHN W. POOLE
Petroleum Chemist, New York City

We have seen from the preceding members of this series that unavoidably some "good oil" is dissolved in the solvent phase and becomes part of the extract. The quantity we have seen is largely determined by the composition of the basic two-phase system of good oil and solvent.

Since largely this composition is fixed by requirements of effective extractive power, such loss may never be eliminated; every unit of solvent used must result in a loss not less than indicated by the phase diagram. The phase diagram may not be defeated and the only way in which such losses may be reduced while the quality of the raffinate is maintained is to further refine the *extract* by use of a *new* solvent—*or its equivalent*. Such a solvent will possess an undesirably low distribution ratio, normally unsuitable for use in the regular extractive system, but possessed of one vitally important virtue — very little "good oil" will be needed for its "saturation," and consequently only this "very little" will be lost in the resulting extract.

A summary of the following discussion can be made with very few words:

This "new solvent" will desirably give the extract one single-stage "extraction" and no more. For commercially obvious reasons the new solvent ought to be chemically identical with the original solvent, but by virtue of different conditions—such as temperature or the presence of modifying agents—possessing new and necessary characteristics. If a modifying agent is used it must be thereafter easily separable from the solvent.

For illustration let us again refer to the single-stage unit of Figure 3. Here we find the solvent phase to comprise 183 parts of solvent, 20 parts of "good oil" and 9 parts of "impurities." The ratios of the first two quantities are fixed by the selection of the vehicle for extraction, being a point on the phase diagrams.

By examination of the complete diagram, for example Figure 1, we may find that by no more fundamental change than a drastic decrease of temperature, a two-phase system can exist where the respective compositions are 1 per cent good oil, 99 per cent, and 96 per cent good oil, 4 per cent solvent, respectively. As a result, where previously 183 parts of solvent would carry away 20 parts of good oil, the same amount of solvent can now carry away only about 1.8 parts, reducing the loss by over 90 per cent. The natural reaction is—why was not this temperature chosen originally. The answer is simple.

To have used the solvent at this low temperature would have ruinously decreased the effective distribution ratio. In place of the highly advantageous ratio of 4 a ratio of 0.1 might now exist, so low that either or both the necessary number of stages or the solvent ratio would be so increased as to render the procedure noncommercial. To add and operate a single stage having little extractive potency, *out of contact with the main portion of the feed*, is a small price to pay for a great increase in yield, but to render all stages extractively impotent would be quite another matter.

Assuming the ratio of 0.1 as existing in this low-temperature stage let us analyze conditions, admittedly ignoring certain inaccuracies which do not affect the fundamentals involved. The solvent and good oil are found to be distributed as follows: A total solvent phase of about 184 parts, comprising 1.8 parts good oil and 182 parts solvent and a total oil phase of about 19 parts comprising 18.2 parts of good oil and .8 solvent.

As will now be seen the relative smallness of the oil phase at this point is very fortunate.

On a distribution ratio of 0.1, the impurities will distribute themselves as follows, X being the unit concentration in the solvent phase.

(1) Amount in solvent phase = 184 X
(2) Amount in oil phase = 19 X
Total (9) = 374 X

(1) = 4.4 parts, (2) = 4.6 parts, approximately.

From these figures it is obvious that the precipitated oil phase, containing 18.2 parts of good oil and 4.4 parts of impurities is a much worse material than was the original charging stock. With a better distribution ratio this difference would, of course, be less, but if the main extractive portion of the plant is being operated in any reasonable manner, the precipitated oil can hardly fail to be of the lower grade than was the charging stock. For the contrary to be true a more favorable distribution ratio would of necessity exist in the precipitating stage. Except when the solution of solvent in the oil phase is excessive, the author has never known decrease in temperature to favor distribution ratio. Where dissolved solvent cannot be termed excessive and where reduction in temperature provides better selectivity, we have a clear case of "overloading" the solvent with impurities, a matter to be corrected by increasing solvent ratio.

It is generally accepted by authorities that if precipitated material is returned at once to the point of feed that its inferior quality will upset the operation of the plant and decrease its efficiency. Lacking other changes, the quality of the raffinate will suffer. In fact, unless the material returns to the point of feed in quality equal to the original feed, raffinate quality cannot be maintained. And so we come to a much disputed point, on which the author's position is confirmed by experience as well as being in accord with the foregoing theory.

Except under economically undesirable conditions of high solvent ratio, the precipitated material is "hard put" to get back in as good condi-

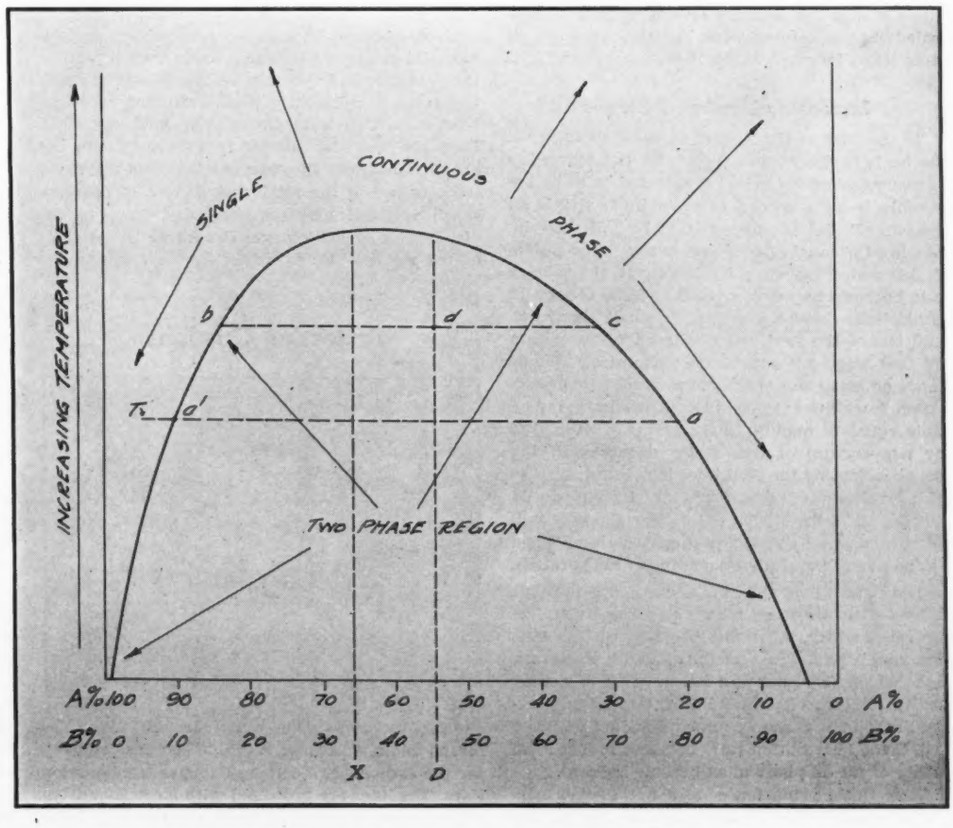

Fig. 1—Generalized phase diagram for hypothetical partially miscible liquids

tion as was the original feed. To assure such quality, one or more extractive stages, or the equivalent, may be installed between the point of original feed and that point at which the solvent finally leaves the system.

Among those experienced in solvent extraction, many favor the imposition of decreased temperature over this entire rectifying section, usually as a more or less even temperature gradient to the final precipitating stage.

In the author's opinion the *even gradient* concept is based for less on observance of extraction plants than on confusion—under the name of analogy—with the distillation equipment. Without doubt, plants using this even gradient do "work," but with equally little doubt they work in spite of it, rather than because of it.

If any even gradient is to be sought in an extraction plant, or even in distillation equipment, it certainly is not one of temperature. In distillation, knowing that the pressure never increases from one stage to another up through a tower, temperature gradient is a vital *symptom* but never a means or a cause. The only *gradient* of fundamental significance in either distillation or extraction is the gradient of concentration. Except for the regard which standard textbooks on distillation have accorded this temperature gradient, the theory of distillation would have provided far more useful precepts for extraction.

A few words, demonstrating what may result from reducing the temperature in the rectifying of an extractive plant, seem worthwhile. It is quite true that by increasing the solvent ratio, the number of stages and/or the amount of extract, a multitude of sins can be more or less effectively concealed; but in spite of what can thus be done, all three items increase the final cost.

Increasing Number of Stages

In the case of the first two, added expense for one leads to decreased expense for the other. Let us assume a condition so exaggerated as to be impossible, being a species of proof by "reductio ad absurdum." Let us suppose that by infinitely increasing the number of stages between the points of feed and of injection fresh solvent, the solvent ratio becomes impossibly small and the change in paraffinicity between stages so small that compositions of the feed and of the oil phase within the first stage are substantially identical. A substance entering this stage and produced by precipitation from the extract phase, can now never be made equal in quality to the original oil, and if the temperature of that stage of the rectifying section adjoining the feed inlet is reduced, further undesirable material will actually be introduced into the oil phase at that point. Paraffinicity will be reduced at all points and the rectifying section will be a handicap rather than an aid to operation.

The reason is simple, under normal conditions decreased temperature means decreased distribution ratio, which, other things being equal, means that an oil phase in equilibrium with a solvent phase of specified composition must be of poorer quality: Prior to its entry into the rectifying section the solvent phase was in equilibrium with the feed, if the distribution ratio becomes reduced the quality of the oil phase must become reduced.

That this circumstance does not always happen in practice may be attributed to the limited number of stages comprising the main system, so that the oil phase in the first stage is much better than the feed—but the greater are the number of stages the smaller will be this first stage improvement. The power of the solvent phase to take up more impurities, if distribution ratios are undisturbed, is measured by the differences in quality of oil phase between adjourning stages. *If the distribution ratio is decreased*, it is *possible* to completely wipe out the power of the solvent phase to take up additional impurities. More load becomes imposed upon the main extraction system and the quality of raffinate will suffer unless compensation is made by increased stages or increased solvent. The effect of the latter on yield has been discussed; the effect of the former is to further decrease the leeway between the two vital stages and we find ourselves in a truly vicious cycle.

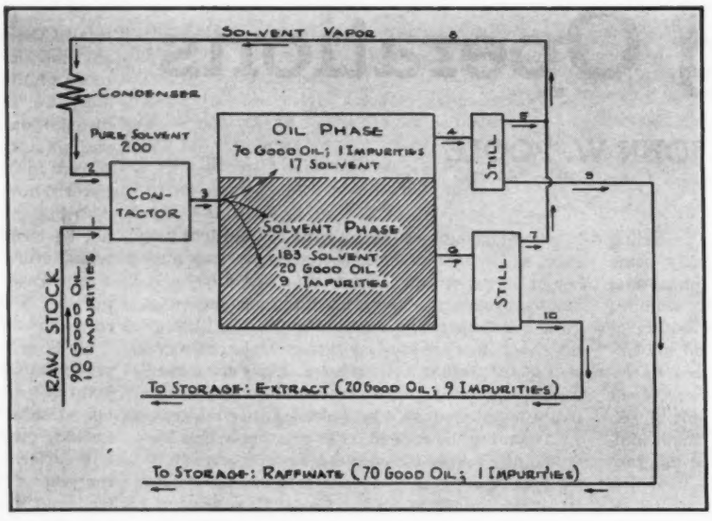

Fig. 3—Flow diagram of simplest possible continuous solvent extraction plant using single-stage extraction

It so happens that increase of solvent ratio is a partial antidote, although a costly one; it permits the principle to be seemly defeated—at a price. If the ratio is sufficently high, refluxing "solvent-free extract" within limits will hold up yield. However, the best answer is not costly cure but cheap avoidance. In other words do not allow the temperature of the rectifying section to decrease sensibly. Even heat it if necessary. Keep up the distribution ratio high over the extractive portions of the system. Form reflux in the final precipitating stage and there only. Do not "relieve" this stage of part of its burden by precipitation in prior stages of the rectifying section, such relief is mostly imaginary. It is popularly believed that a highly naphthenic oil phase in the final stage means a highly naphthenic extract. It is a misleading part truth. The concentration of good oil in the issuing solvent has little relationship to either the quantity or quality of the co-existing oil phase, but is essentially fixed by the composition of the solvent and the existing temperature. The concentration of *undesirables* in the issuing solvent is determined by little else than the quality of the original charging stock and how well the main extractive system has removed impurities (assuming of course that the rectifying system has not been allowed to undo this work). These two items are all that possess material significance at this point of the system.

As to the methods of accomplishing precipitation in the final stage, there are several. In general the writer feels that an easily removable modifying agent, such as water for crotonaldehyde or phenol is preferable. The control and recovery of such a modifying agent is often cheaper and simpler than chilling and control thereof.

In some cases, return of solvent-free extract is effective. However, it is the writer's firm conviction that this is true only when solvent ratios are over great. At the same time, it is not difficult to visualize situations where unusually high solvent ratios may be more than compensated for by other factors. For example a shorter and initially less expensive extractive system.

In Review

The article just finished is the concluding member of the series dealing with that fundamental mechanism which makes solvent extraction "work." The author admits that it involves a controversial subject with which he is in disagreement with "eminent authority." He admits, yet in view of personal experience doubts, that it may not possess completely universal truth. With nearly 10 years' experience in solvent extraction he has never encountered anything which contradicts the subject matter here included. Since the contents of a commercial plant must be extremely complex chemically, it is held that analogies with simple systems can have little, if any, pertinence. *(Previous articles of this series appeared in the May 6, July 8 and 15, August 5 and September 23 issues of The Oil and Gas Journal.)*

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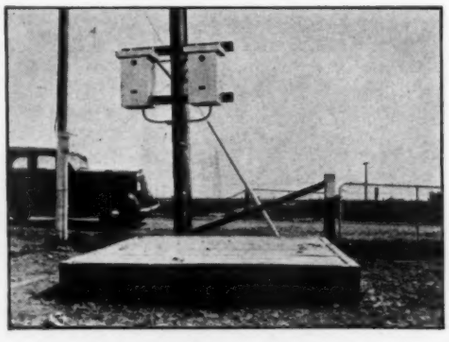
Protecting Gas Lines

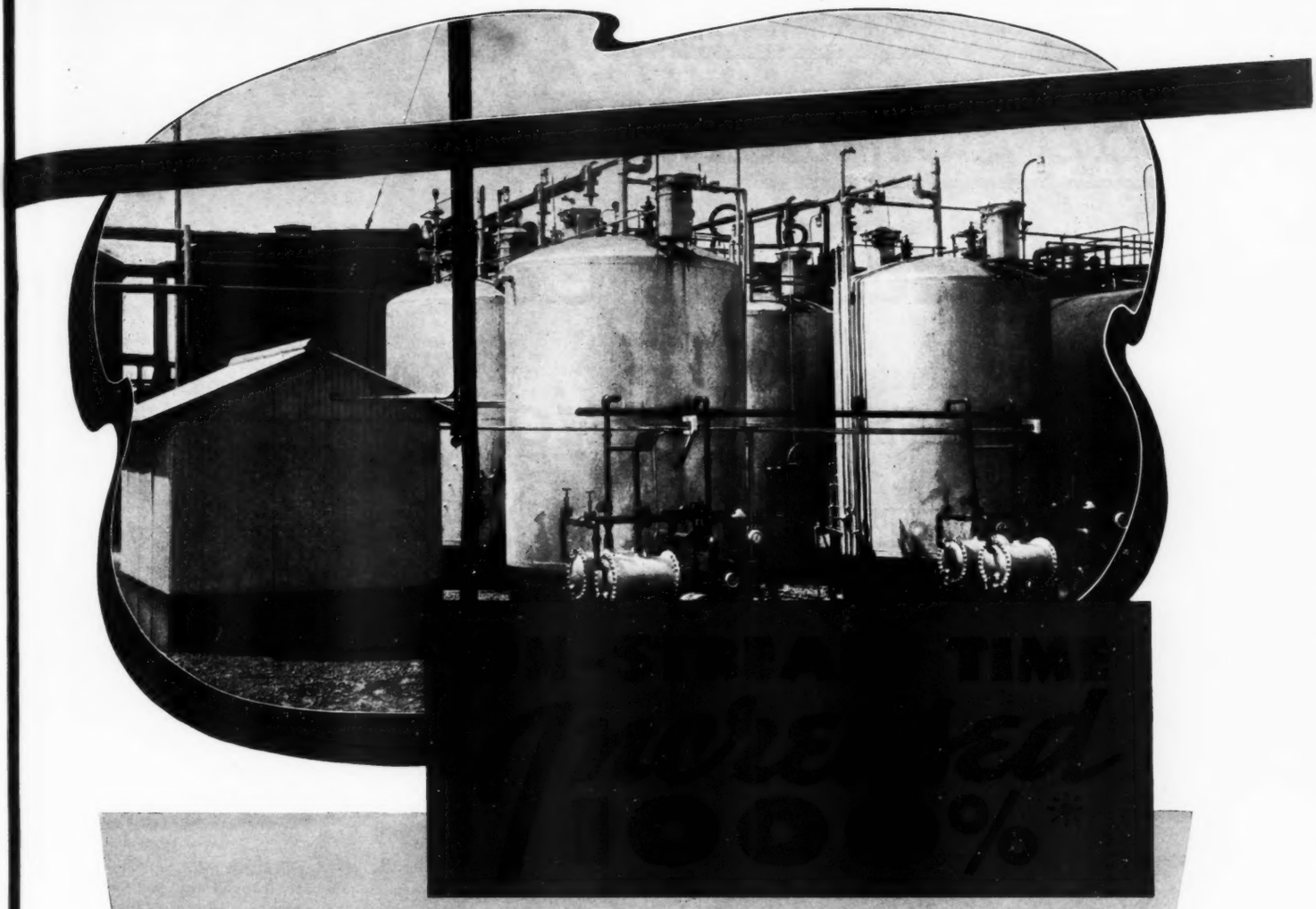


The accompanying photograph illustrates means taken by a large Pacific Coast gas company for the cathodic protection of its gas transmission lines. The lines are protected with electricity from field power-transmission lines, the rectifier being located under the hood.

Method of Determining Porosity

The Bureau of Mines has issued R. I. 3352 under the title, "A Method of Determining Porosity: A List of Porosities of Oil Sands," which contains information regarding a method of determining the effective porosity of oil sands within the general classification of gasoline expansion methods. This system was devised and developed at the bureau petroleum experiment station at Bartlesville, Okla., as a part of the research dealing with fluid and energy relations in reservoirs and improved oil-recovery methods.

The tabulation at the end of the report is the result of several hundred porosity determinations for oil fields in 11 states. The states for which these tests were made, and the number of tests made for each state follows: Arkansas 1, Colorado 1, Illinois 2, Kansas 7, Kentucky 1, Louisiana 16, New York 1, Oklahoma 22, Pennsylvania 1, Texas 9, and Wyoming 2.



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DE-SALTING PROCESS

Soap Solution Used as Lubricant in Gas Compressor Station

By MITCHELL TUCKER

Soap solution lubrication has been employed successfully for the past year by United Gas Public Service Co. on the gas compression side of its 8,000-hp. two-stage gas compression station in the Rodessa field, handling over-saturated gas at high temperatures, by the use of sight feed lubricators.

This station is an integral part of United's vast gas system in that field. Situated about midway between the Louisiana and Texas sides of the pool, the gathering system extends in each direction, bringing the low-pressure gas from oil and gas separators to the inlet scrubbers at the station, from which it is then moved through two-stage compression and scrubbing before delivery to the 140,000,000-foot capacity Myrtis absorption gasoline plant. The plant has two important functions in this gas system: First, to pick up the field gas at about 50 pounds pressure and boost it to a point where high-pressure absorption can be employed at the gasoline plant, permitting the well-established economies of high-pressure operation, and then discharge at line pressures into the transmission system; second, to scrub and compress as much gasoline as possible out of the gas through two-stage compression and cooling. Obviously, in achieving this objective, a much more difficult lubricating problem on the compression cylinders is presented than would be if only pressure boosting of dry gas was desired.

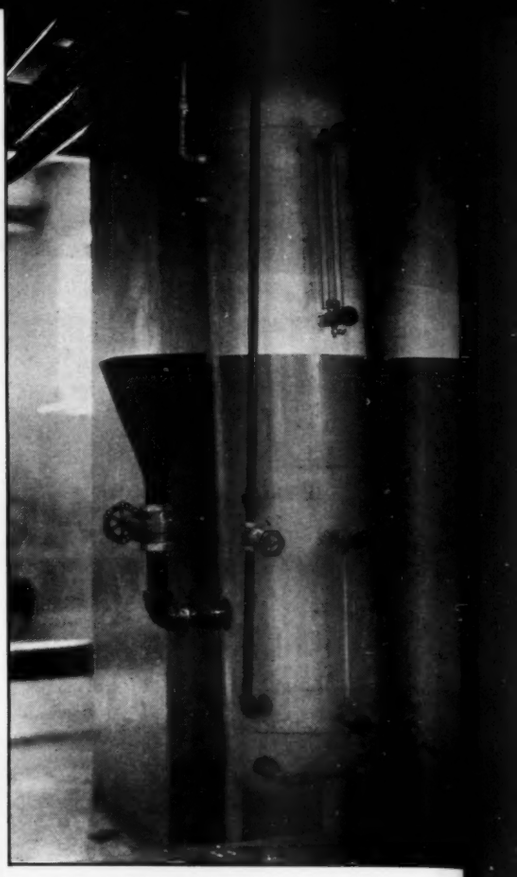

Fig. 1—The 80-gallon mixing tank for soap lubricant, situated in the basement of the compressor building

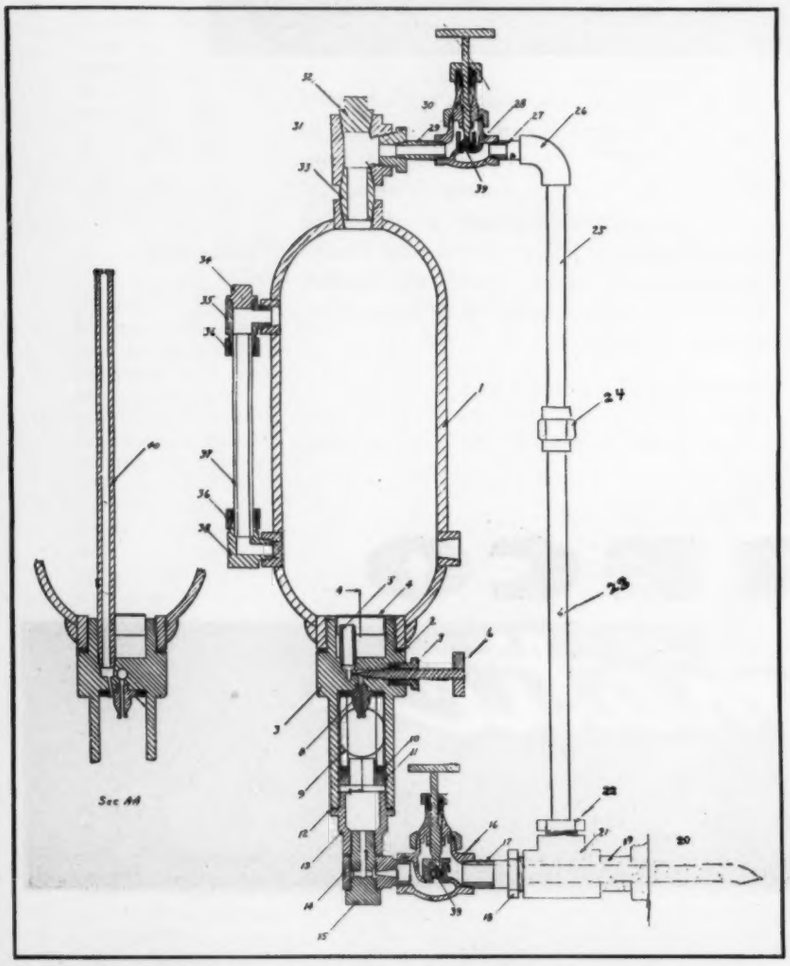

Fig. 2—Detailed drawing of the sight-feed lubricator body, valves, fittings, etc.

Compression equipment in the plant consists of eight 1,000-hp. horizontal twin-tandem Cooper-Bessemer engines, direct connected to two-stage compressors having a daily capacity of 60,000,000 feet. A 50-viscosity at 210° lubricating oil is used on the two-stage compression side.

Gas is picked up from the inlet scrubbers at about 50 pounds pressure and 90° F. temperature, and is compressed through the 20½ by 36-inch low-stage cylinders to about 165 pounds pressure and a temperature of about 230° F. It then travels out through the cooling tower and into low-pressure scrubbers. It is returned to the high-stage compression side of the units at about 120° F., and through the 12½ by 36-inch cylinders is boosted to the maximum pressure of 450 pounds and 255° F. temperature. It is then routed back through the cooling tower in preparation for high-pressure scrubbing before discharge to the gasoline plant.

Lubricating oil for the compression side of these units would be quickly cut out and rendered ineffective in the presence of this over-saturated gas, particularly at high temperatures. The United Gas Public Service Co. is successfully employing a soap lubricating system of its own design which has adequately and economically handled the job since its construction in the summer of 1936.

The Hillyard Special "C" solution is used. Figure 1 shows the 80-gallon mixing tank situated in the basement of the compressor building. Through the funnel opening one part soap and eight parts water is introduced. Slight agitation with air pressure from the bottom quickly mixes the solution. Glass sight-gauges at the top and bottom inform the station operators at all times of the solution level.

About 220 pounds air pressure is maintained on the tank from the auxiliary air pumps, and the solution is delivered to each lubricator on each side of the compression units through one-half inch pipes, later swedged to one-quarter inch near the lubricators.

Figure 2 gives a detailed diagram of the lubricator body, valves, fittings, etc. Their position on the high- and low-stage cylinders on the compression side of the units are shown in Figure 3, an interior view of this 8,000-hp. power.

The lubricator body itself is made out of two bull plugs welded together, turned off and polished. Solution capacity is about one quart. The 220 pounds pressure maintained in the lines from the mixing tanks acts as a feeding pressure at the inlet valve in the lubricator. Station operators keep the lubricators supplied with the solution by opening the inlet valve when the sight gauge indicates it to be at a low level.

The required amount of lubricating solution is fed into the high- and low-stage cylinders on the suction stroke with the gas at each stage's respec-

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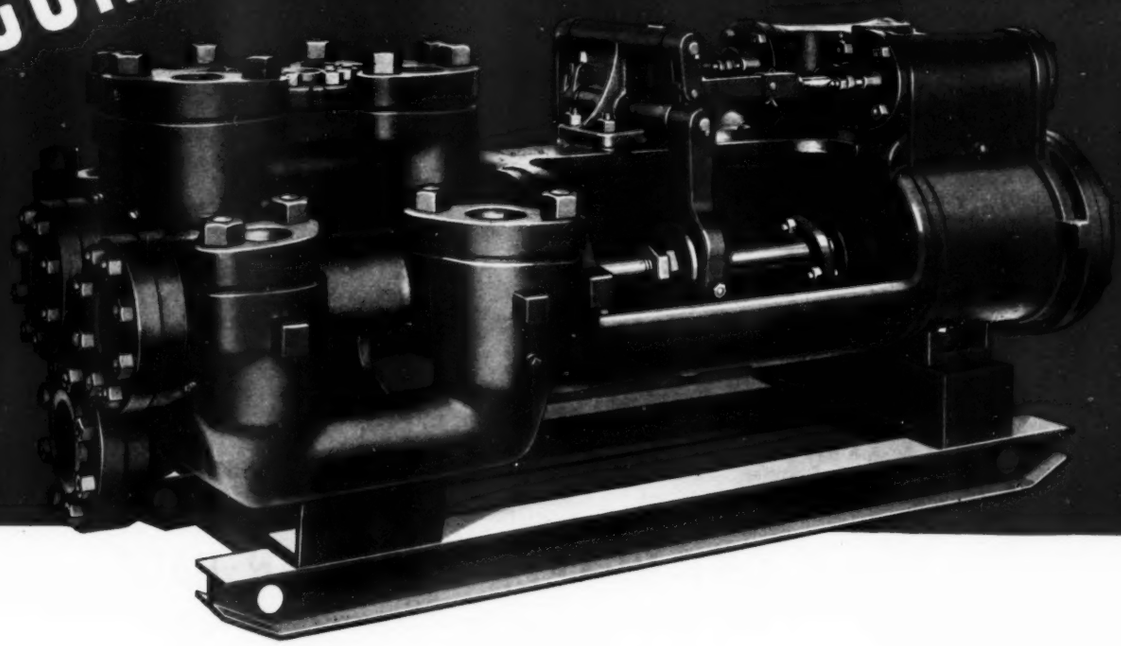

Fairbanks-Morse again demonstrates its ability to meet new conditions with the development of the new Fig. 6285 Duplex Steam Pump. Designed for present-day high pressure boiler feed and oil line service, this pump can "stand the pressure" with a 1000-pound fluid end working pressure, hydrostatically tested at 2500 pounds, and a 350-pound steam end working pressure.

Perfectly balanced piston type steam valves provided with snap rings insure high efficiency and perfect operation with saturated or superheated steam. Troublesome air pockets common to many pumps have been eliminated in the Fig. 6285 design.

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New MISSION SILVER TOP SLUSH PUMP VALVES LAST 100% LONGER

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. . . SAVES TIME AND TROUBLE OF CHANGING SEATS OFTEN.

. . . SAVES MONEY FORMERLY INVESTED IN CONTINUOUSLY BUYING NEW SEATS.

NEW BUSHING IS TAPERED—a progressive Mission improvement that holds the bushing firmly in place, eliminating wear on bottom of bushing, and valve seat under bushing . . . Easily changed by using attachment on Mission seat puller.

Improved MISSION SLUSH PUMP PISTONS CUT UPKEEP COSTS IN HALF . . .

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PRINCIPLE OF MORE-RUBBER AND LESS-METAL gives far greater wiping surface . . . eliminating by-passing.

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tive operating pressure. The lubricator is so constructed that at the end of the compression stroke there is a flow of gas into the check valve on the upper or inlet side, moving down through the lubricator. When the piston begins its movement on the suction stroke, the check valve closes and holds the pressure with the lubricator, causing the gas to flow down through the sight-feed glass. The lower check valve allows the pressure created in the lubricator to be released at the lowest point, causing the discharge of the required amount of soap lubricant into the suction. The maintenance of the slight gas flow through the sight-feed glass prevents the formation of foam, and permits the indication of a reliable feed at all times.

About one quart of lubricant each 16 hours on each side of each unit is required during capacity operations.

The lubricant is a vegetable compound having no flash, and is not soluble in gasoline or wet gas. It is noncorrosive and does not cut and wash out the compression cylinders. Examination of the inner cylinder walls show that a thick film of high strength is deposited. No evidence of carbon deposition or wall wear has been noted after one year's operation.

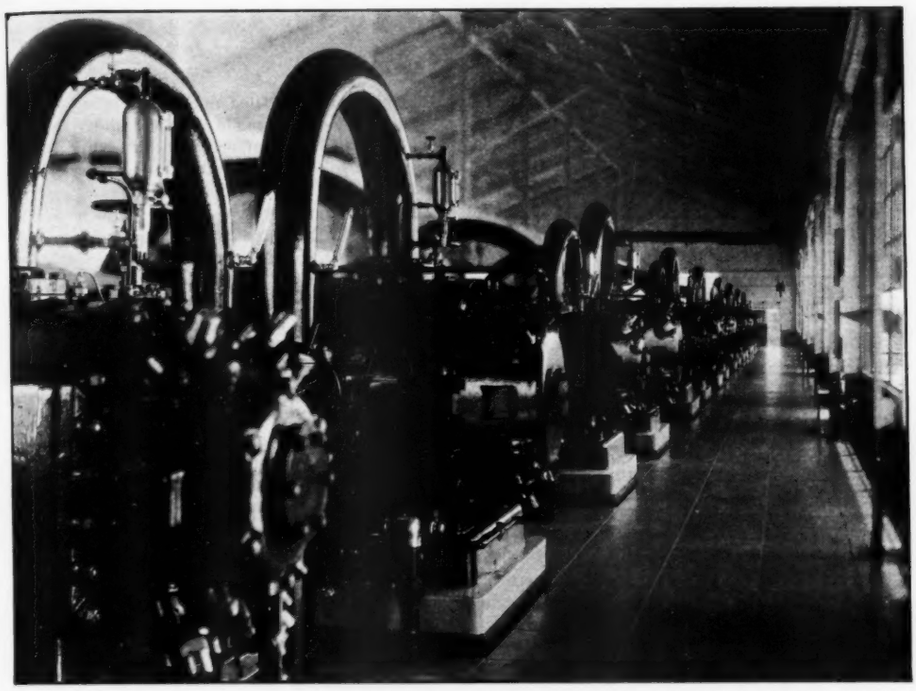


Fig. 3—The two-stage compression side of United Gas Public Service Co's. 8,000-hp. gas compressing station at Rodessa, showing position of soap lubricators above both the high- and low-stage cylinders on each of the eight units

Repressuring Operations

(Continued from Page 42)

turbing effect it might have on any back pressure maintained on the well.

As a means of reducing the investment in small tanks, it is often practical to arrange several wells to pump into one tank. In such cases, arrangements are made either to bypass the oil from the wells not being gauged, or to pump these wells at times other than when the well being gauged is producing. Of course the best plan is to have a small tank for each well, but the investment costs involved sometimes suggest the alternative.

The measurement and test of the gas or air-gas actually delivered from each well is another essential requirement of good repressuring operation. An effort is made along this line in most cases at present by using a "well tester" which measures the free flow of gas from the casinghead to the atmosphere. This is not satisfactory. It does give a rough indication of the relative pressures at each producing well, provided the work is done in a consistent and competent manner, but it gives no indication of the actual gas delivery from the wells in question nor even, necessarily a relative idea of the actual delivery.

The gas flow must therefore be measured at or near each casinghead by means of a permanently installed orifice plate. These do not need, however, permanently piped manometers. One manometer can easily be carried from well to well, and attached, for the reading, with rubber tubes, to small hose cocks placed permanently on the orifice flanges. After the installation of the flanges is complete, this method of taking readings is not only accurate, and therefore useful, but it is far more rapid than the presently used method of placing a well tester on one well after another.

As most orifice couplings on the market have been designed for service requiring far greater accuracy than is here needed, an obstacle to this method of measurement has been the cost of the couplings. This condition has been remedied, so that now it is possible to obtain orifice flange couplings through supply houses at a very reasonable cost. The net cost of this installation is further greatly reduced by using these couplings in place of the railroad unions usually installed at this point. The one precaution necessary is that from 15 inches to 2 feet of straight pipe be installed on each side of the coupling, and that no pinched-in cocks be placed immediately adjacent to them.

One more precaution must be taken when reading orifice gauges, whether on the pressure wells or producing wells. If the pressure is changing at the time the readings are being taken, or if it has recently changed, very serious errors are introduced. This makes it necessary to confine the taking of readings to periods of reasonably constant pressure. On the pressure wells, this is almost impossible without the installation of a recording meter at the pressure plant for check purposes.

As regards producing wells, the time orifice readings are taken, with respect to the pumping schedule is very important. Before pumping starts there may be an abnormal liquid back pressure on the well with a consequent low gas flow. Soon after the well is hooked on there may be, and sometimes is, an actual reverse flow of gas. All producers are acquainted with the vacuum it is sometimes possible to produce at a casinghead while the well is being pumped down. When the well is first pumped off, there may be an abnormally large flow of gas due to the gas backed up in the sand on account of the previous back pressure. The most accurate measurements can therefore be made some time after the well is hooked off. If for any reason the manometer readings must be made at other times, the exact time with respect to the pumping of the wells must be recorded with these readings if they are to be of value. Any recent change in gas consumption must also be considered in analyzing gas delivery from producing wells.

Where air is used as the repressuring medium, it is necessary to determine from time to time the amount of air present in the gas taken from the casingheads. This is important for two reasons. In the first case, if the air content becomes sufficiently great, an explosive mixture may be present, with its possibilities of loss of life and property. For this reason the air content must always be kept below 80 per cent, and good operation therefore requires that it seldom be allowed to exceed 60 per cent. A knowledge of the air content of the gas is important, too, as a means of checking air movements in the sand, and of changing and redirecting these flows as analysis may indicate. Also it is sometimes important that the CO_2 (carbon dioxide) content of the casinghead gas be occasionally measured. By this means the extent to which the oil is being oxidized, and consequently thickened, may be indicated. Where such a condition becomes serious, the abandoning of the use of air may become necessary. Both air and CO_2 content are measured by the use of a special analysis apparatus, readily carried from well to well.

This whole discussion may make the job of repressuring seem terribly involved and beyond the willingness of the operator to tackle in this form. It is somewhat complicated, it is true, but upon study, the operation resolves itself into the very logical procedure of first determining the conditions as they naturally exist, next laying out a plan of development to fit the case, then proceeding with the operation by periodically gathering just sufficient information to know what is going on and by making just such moves as an examination of this information suggests as necessary to do a good job.

This plan may further seem to involve concentrating a lot of investment at one point. Is this a disadvantage? Many operators are installing equipment at a number of widely scattered points, and in their sincere efforts to get a return on a large acreage involving many separated leases by repressuring, they are getting a far smaller return for their money spent than if they were to concentrate the investment at some few points and carry out their work in the efficient manner here described. When the major production at such points has been obtained and sold, they are then in a strong position to move to other properties, profit by their previous experience and in all probability obtain even better results from these.

The rewards of this plan of attack are definite and assured. By no simpler method can they be obtained in such magnitude and what is most important, the rewards are sufficient to make the whole thing very much worth while. This procedure is far different from wildcatting and occasionally getting in on a new field, but it is in reality no more expensive, generally far cheaper, with most of the uncertainty absent.

Adequate Filing System Needed to Keep Abreast of Industry

By FLORENCE W. LUNDELL
Librarian, Technical Department, Tulsa Public Library

Recognizing the desire on the part of men actively engaged in the engineering and operating departments of the oil industry to clip articles from the pages of The Oil and Gas Journal the practice has been made convenient by arranging the material in sequence. Here the author provides an orderly method for filing this and similar material to effect a saving of time when future reference is necessary.

Classification, filing and indexing petroleum literature has been a problem of oil company engineers and technologists. The location of a specific article or an article on a certain subject, or all the articles on a specific subject, is a constant question. Sometimes it calls for tedious search. Fortunately there are numerous indexes on which to depend.

Along technical lines the Industrial Arts Index[1], and the Engineering Index[2] are most important.

The only petroleum magazines indexed in Industrial Arts include Institution of Petroleum Technologists Journal, National Petroleum News, The Oil and Gas Journal, Petroleum Age, and S.A.E. Journal. Of course others that contain articles on the petroleum industry are indexed. In order for the index to be of service there must be files of the magazines. Few private libraries have the space, nor does the use of the magazine in complete files warrant the expense of binding.

Magazines Kept Complete

A company librarian may desire to keep com plete files of some of the more important oil magazines either bound or unbound. These may be quite useful through the annual or semiannual indexes to the magazines which may occur in the last number of the volume. Otherwise, unless it can be withdrawn from the number in which it is published, and kept separately, it is necessary to make a card indicating the date and pages where the index occurred.

A second method of making the information in the magazines available, and one that is used in the Tulsa Public Library, is to keep a subject card file of all the articles which appear. On these cards appear the subject, author, title of the article, name, date and pages of the magazine. It is usually necessary to make more than one card for the same article to take care of all the subjects the author covers.

These cards are filed alphabetically under subject. The geological articles are kept in a separate file, alphabetically under state, then section, county or field. Thus a complete, up to date card file of all the articles in all the magazines on say "Mud-Laden Fluids," is available. In the Tulsa library the cards are made for the articles when the magazine is received, and the cards are filed weekly. Some 500 or 600 cards are filed each month in the subject card index.

It is from these cards that mimeographed bibliographies have been compiled on the following subjects: "Acid Treatment of Wells," "Air and Gas Lift," "Cementing Wells," "Corrosion and Anti-Corrosives," "Emulsions," "Evaporation," "Flooding," "Gasoline Treatment," "Geophysical Prospecting," "Mud-Laden Fluids," "Polymerization," "Repressuring," "Solvent Refining," "Removal of Paraffin From Oil Wells," "Valuation and Depletion," and "Unit Operation of Pools."

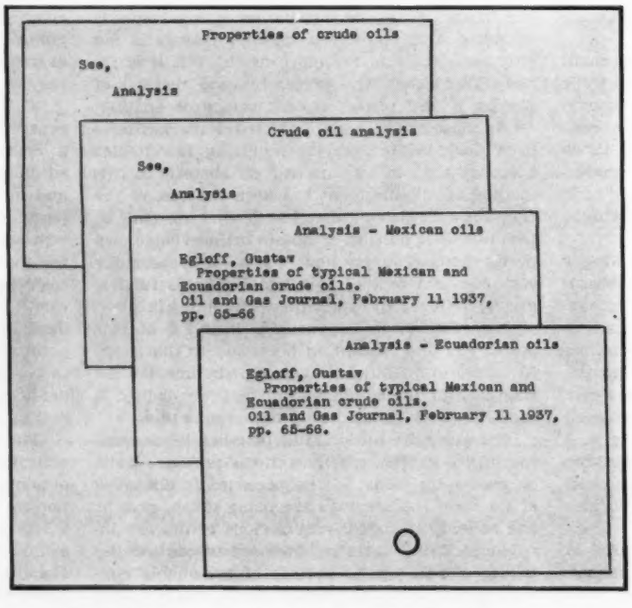
Uniform Subject Headings

In making a subject card file it is necessary to keep the subject headings uniform so as not to file articles on air and gas lift one time under gas lift and another time under air lift, but always under one with a cross reference from the other. As: Gas Lift, see Air and Gas Lift. This is best done by making a list of subject headings and whenever a new one is used add it to the list.

Cross References

In cases where an article refers to only one subject, but might be thought of in different ways, there is need for "cross references." Articles on Crooked Holes are filed under Surveying, Underground. So a card is made and filed under the subject Crooked Holes referring to Surveying, Underground, also one for Underground Surveying—see Surveying, Underground.

Articles that involve related subjects are indexed under the most important, and "see also" cards are made referring to the other subjects. There are articles indexed under Accumulation and under Migration, the articles under one may be helpful to the other, so cards are made under each referring to the other as: Accumulation, see also Migration.


Properties of crude oils
See,
Analysis
Crude oil analysis
See,
Analysis
Analysis - Mexican oils
Egloff, Gustav
Properties of typical Mexican and Ecuadorian crude oils.
Oil and Gas Journal, February 11 1937, pp. 65-66
Analysis - Ecuadorian oils
Egloff, Gustav
Properties of typical Mexican and Ecuadorian crude oils.
Oil and Gas Journal, February 11 1937, pp. 65-66.

Method for cross-indexing articles using filing cards

Clipping Articles

For private collections, it is more economical to clip the desired articles and file them. It is essential that the source and date of the article be given. The filing can be done in one of three ways.

1. Alphabetically under subjects.
2. Chronologically, or numerically.
3. Classified.

Alphabetical Subject File of Articles

Probably the easiest and most satisfactory method, especially where several individuals are using the files and are filing, is the subject alphabetical arrangement. It meets a need where there are several articles from different sources to file under one heading. The popularity of this method is due to the fact that with it, papers are found by direct reference. This eliminates loss of time spent otherwise in referring to a separate index to determine the exact location of the article wanted.

The subject of the article is put in the upper right-hand corner so that it can be placed in the files in its proper place. After filing by subject, the clipping may be arranged alphabetically by author, under the subject, or in a chronological arrangement, or just dropped in miscellaneously.

Again the subjects must be kept uniform, and probably it is best to keep a list of subject headings. If one desires the articles on Acid Treatment of Wells, for example, they should be filed together under that subject. It takes very little time to file articles by this method.

Article on Several Subjects

However, frequently an article covers several subjects and of course it can be filed only in one place. The most important subject should be selected. Under the other subjects covered, file a sheet of paper with the information as to what the article is and under the subject it is filed. Frequently there are articles on both sides of the sheet one desires to save. Unless one wishes to purchase a duplicate copy, the sheet of paper can serve the same purpose by indicating the article is on the reverse

TRANSIT HOT OIL PUMPS ENGINEERED TO THE JOB

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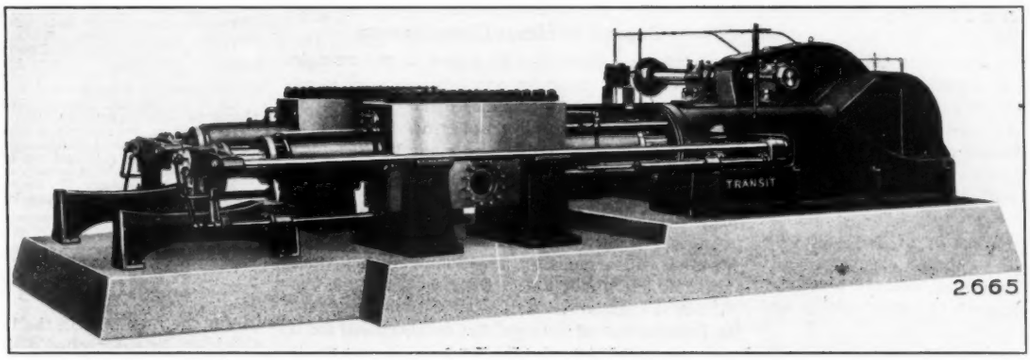

Any type of prime mover can be used with this latest type of TRANSIT Hot Oil power pump.

Size shown is a 5¼ x 18″ Horizontal Duplex plunger type for 800° Fahr. oil against 800 lb. pressure. Capacity—240 gallons per minute of hot oil. Of course, this is only one of many sizes and types we manufacture.

Forged steel liquid cylinders with integral stuffing boxes water jacketed.

Liquid cylinders supported along center line of bore by water cooled saddles. This patented arrangement permits the cylinders to expand in all directions with no change in the alignment.

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side of a specific article filed under a particular subject.

Chronological or Numerical Method

Oil men often file articles in the chronological method with the first article clipped numbered 1, the second 2, etc., and in a short time these articles run into the hundreds. It is a simple system and permits rapid filing. Unlimited expansion is possible with this method. As for filing, this method is quickest, but time is lost in making an adequate index and in getting the articles from the numerous numbers under which they are filed, when looking for articles on certain subjects. To operate the chronological or numeric file, a card index is essential. A subject card has to be made for each article indicating the number under which it is filed.

Book Classification

The Dewey Decimal Classification[1] is used in most libraries for the classification of books. The first decimal classification was worked out by Melville Dewey in 1873 as a method for classifying library material. Its suitability for this type of material is proved by the fact that today it is in use in more than 90 per cent of the public and private libraries in the United States, and is widely used in other countries. The Dewey Decimal System covers every subject upon which anything has been written.

The general plan of the system follows the development of the world's knowledge. There are 10 main divisions:

000 General works, such as encyclopedias, periodicals, and books of general character.
100 Philosophy—Science of living.
200 Religion—Principles of spiritual life.
300 Sociology—Science of human relationship.
400 Philology—Science of speech.
500 Science—Classified knowledge of the physical world.
600 Useful Arts—Creation of physical comforts.
700 Fine Arts—Creation of aesthetic pleasures.
800 Literature—Record of the thoughts and ideas of men.
900 History—Recorded statement of the customs and performances of the race.

Each class is similarly separated into 10 divisions and the divisions into sections. Thus 547 (the classification number for organic chemistry), 5 meaning science, 4 chemistry, 7 organic. The books on the shelves are arranged in simple numerical order, and since each subject has a definite number, it follows that all books on any subject must stand together. Under this arrangement all books on petroleum technology would be classified 665.5, and petroleum geology 553.28.

In a company library where there are several books on the same subject, they can be arranged alphabetically under author. One might put this notation on the back of the book in white ink (painted over with shellac) so that it can be replaced to its proper place after being used, as: Jefferies Deep Well Drilling 665.5.
J

Following are some of the numbers taken from the classification table which may be helpful in assemblying a technical collection. The complete table is 1,647 pages long.

030 General encyclopedias.
050 Periodicals (arranged alphabetically).
510 Mathematics.
530 Physics.
540 Chemistry.
546 Inorganic chemistry.
547 Organic chemistry.
549 Mineralogy.
550 Geology.
553 Economic geology.
553.28 Petroleum geology.
554 Geology of Europe.
555 Geology of Asia.
556 Geology of Africa.
557 North America.
United States Geological Survey publications arranged numerically under series.
Different state publications arranged alphabetically by state and numerically under various series.
558 Geology of South America.
560 Palentology.
570 Biology, enthology.
620 Corrosion.
621 Mechanical engineering.
621.1 Steam engineering.
621.3 Electrical engineering.
621.5 Mechanical refrigeration.
621.8 Power transmission.
622 Mining engineering.
Bureau of Mines publications arranged numerically under:
Bulletins.
Technical papers.
Engineering reports.
Circulars of information.
Reports of investigations.
622.1 Geophysics.
660 Chemical technology.
661 Chemicals.
665.5 Petroleum technology.
669 Metallurgy.

Bureau of Mines Classification

Little assistance can be found in the straight Dewey Classification for any detailed work in petroleum. The Bureau of Mines has a classification system published in Bureau of Mines Bulletin 250[4] and an expansion of this was made by B. E. Edwards[5], librarian of the Standard Oil Co. of California. Magazine articles, clippings, and pamphlets to be filed are given their proper number in this system and then they are filed numerically. For instance, all articles on Treatment of Emulsions are filed 331.3, Salt Water Disposal 331.4, etc. Until one is familiar with the scheme it is necessary to refer to the table to get the number used for a certain subject. An advantage of this system is that material on related subjects is filed together.

The number 970 Industrial Relations:
971 Employment.
972 Wages.
973 Personal and Welfare.
974 Safety.
975 Camps.
976 Sanitation.
977 Recreation.
978 Education.

The main classes of the Bureau of Mines system include:
000 General treatises and articles.
100 The world.
200 Geology and origin.
300 Development and production.
400 Transportation, storage and distribution.
500 Properties and their determination.
600 Refining and refineries.
700 Utilization.
800 Legislation and legal regulations.
900 Miscellaneous.

Uren's Decimal Index of Petroleum Technology

Professor L. C. Uren of the University of California compiled a Decimal Classification,[6] for the filing of data pertaining to the petroleum and related industries. His main classes include:

000 General.
100 Geographical distribution.
200 Properties, physical and chemical.
300 Exploration.
400 Development.
500 Production.
600 Transportation, storage and gauging.
700 Refining.
800 Utilization.
900 Economics.

This system carries out the same ideas as the Bureau of Mines. It is a little more up-to-date and has a comprehensive index which makes the classification easy.

Expansion

Any decimal classification system can be easily expanded and brought up-to-date without losing the relationship of subjects. This is particularly necessary in the classification of petroleum literature.

References

1. Industrial Arts Index, 1913 to date, H. W. Wilson Co., New York.
2. Engineering Index, 1884 to date, the American Society of Mechanical Engineers, New York.
3. Dewey Decimal Classification, Melville Dewey, Forest Press, New York.
4. Bibliography of Petroleum and Allied Substances, 1915-1923, published as U. S. Bureau of Mines Bulletins, 149, 165, 180, 189, 216, 220, 290; from 1924-1933, published separately by U. S. Bureau of Mines.
5. A mimeographed expansion made by B. E. Edwards of Standard Oil Co. of California. 1924, Los Angeles.
6. Decimal Index of Petroleum Technology, Lester C. Uren, National Petroleum News, Cleveland, Ohio, 1928.

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U. S. Geological Survey, Bulletin 887. Geophysical Abstracts, July-December 1936.
Hoyt, M. E. Petroleum; a selected bibliography. Colorado School of Mines Quarterly, Vol. 27, No. 4, October 1932, pp. 1-63. A selected list of books and pamphlets on petroleum, classified by subject.
Hardwicke, Robert E. Petroleum and natural gas bibliography. Austin, University of Texas Press, 1937.

Council Accredits Curricula of Engineering Schools

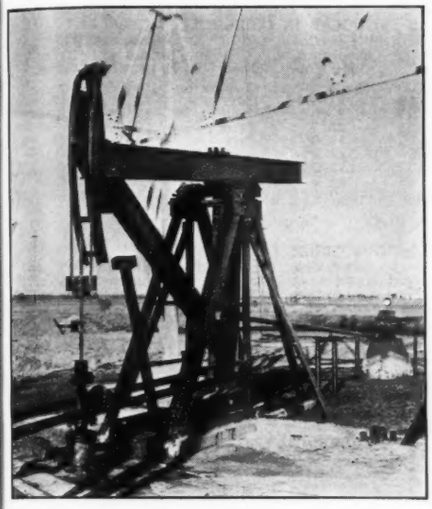
For the first time in the history of engineering education in the United States, engineering curricula throughout the country have been appraised by a representative body of engineers, and a single accredited list has been published of courses of study deemed worthy of approval. The accrediting process has been carried out during the past two years by the Engineers' Council for Professional Development, a joint organization created by seven national engineering societies for the purpose of enhancing the status of the engineering profession. The participating groups are: American Society of Civil Engineers, the American Society of Mechanical Engineers, American Institute of Electrical Engineers, American Institute of Mining and Metallurgical Engineers, American Institute of Chemical Engineers, the Society for the Promotion of Engineering Education, and National Council of State Boards of Engineering Examiners.

Working through four committees, the council inaugurated a program dealing with the selection, guidance, training, and recognition of members of the engineering profession. The objective of the Committee on Engineering Schools was "to formulate criteria for colleges of engineering, which will insure to their graduates a sound educational background for practicing the engineering profession," and to give recognition to those institutions prepared to teach engineering according to acceptable standards. Accrediting was based on both qualitative and quantitative criteria, and the procedure involved the use of an extensive questionnaire and a personal visit to each institution by a committee of engineers. On October 1, 1937, 107 engineering schools had been visited and 445 curricula accredited in 16 branches of engineering.

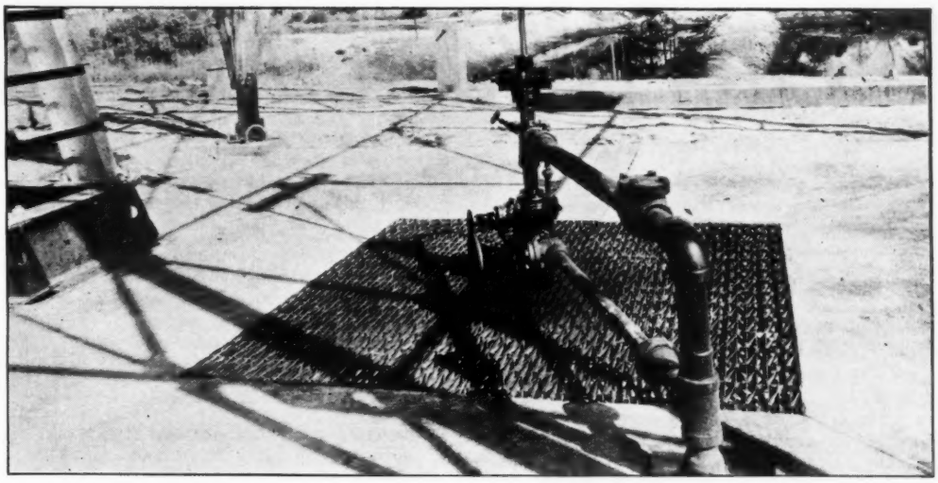
OPERATING IDEAS

Jack Operates Pipe Line Pump

A large operator in the Talco pool transfers oil from lease to the pipe line working tank by means of a pump operated by the pumping jack. A piece of 2-inch tubing attached to the A-frame of the jack acts as a pull-rod and operates the pump. This practice eliminates the need of a pumping unit for transferring the oil.



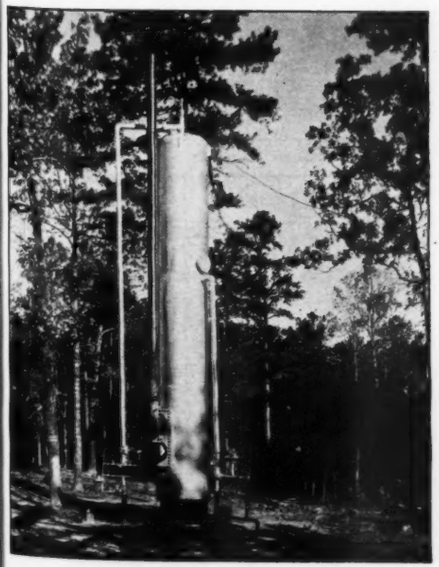
Grating Installed Around Wellhead to Promote Safety

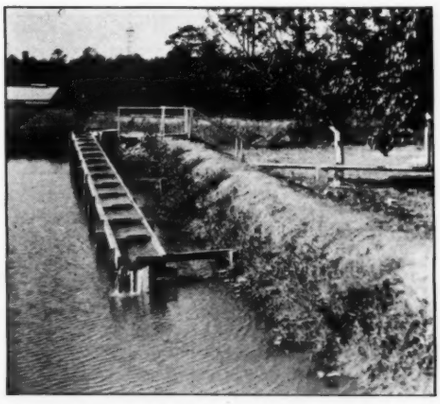


When putting wells to pumping, some operators in the Rodessa field are using a square of iron grating around the wellhead. Usually an 8-foot square is provided for the grating when the cement floor is poured. A cement or sand floor is provided about 6 inches below the grating, which can be taken up in sections whenever desired. Obvious advantages result from such a derrick floor design, most important of which are cleanliness and safety in well servicing.

Combined Separator-Treater

A combination separator and oil treating unit being used by one oil company in the northeastern portion of the Rodessa field has been found to be very effective in breaking the oil-water emulsion as well as increasing the content of light fractions in the gas. Fluid from the well flows into the bottom of the unit, below the point where steam coils are inserted and controlled at 120° F. by an automatic thermostat. At the increased temperature, gas immediately goes off the top, and the application of heat provides complete and immediate separation of the relatively loose oil and water emulsion in the live oil. The oil gravitates off the higher level, while water is drawn off by automatic float near bottom. Steam is provided from a nearby lease boiler. The application of heat also tends to cause some of the lighter fractions to go off into the gas, adding to recovery of gasoline at the plant.



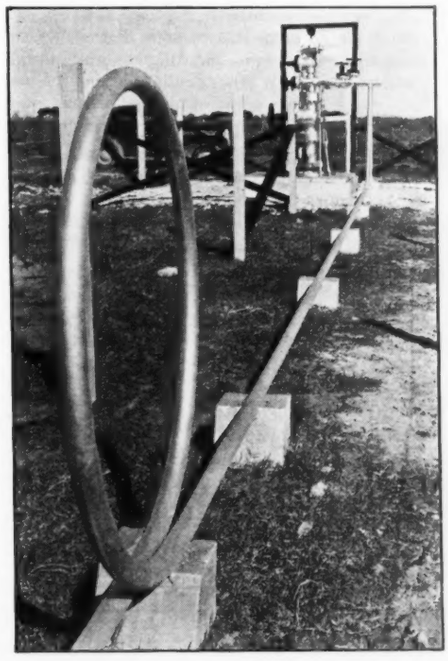


Trough for Cooling Water

A wooden trough with baffles is used to assist in the cooling of water from a natural gasoline plant in the Rodessa field before it is recirculated into the plant cooling system. The increased surface offered the water as it gravitates down the trough allows it to be cooled considerably before flowing into the pond. The plant's supply of water is gas lifted from shallow wells drilled near the plant.

Expansion Loop in Flow Line

A major oil company operating in the Dickinson pool on the Gulf Coast of Texas has found it necessary to have reducing manifolds on many of its wells to reduce the pressure from



above 2,000 pounds to 150 to 200 pounds before treating the crude. Thus to care for expansion and contraction in the flow line it has installed a 3-foot loop in the line, as shown in the accompanying photograph.

Average Gravity of Louisiana Oils Affected by New Fields

By W. L. NELSON

Changes in the kinds of crude oils being produced in Louisiana during the past 10 years are indicated by the figures and tables given herewith. These data are part of a study of the 99 largest oil fields in the United States which are listed in The Oil and Gas Journal of January 28, 1937.

The Louisiana fields that were large enough to qualify among the 99 largest fields, are listed in Table 1, which also shows some of the characteristics of these crude oils. The average properties of the crude oil produced each year are given in the accompanying figures.

TABLE 1—PROPERTIES OF THE CRUDE OILS PRODUCED IN LOUISIANA

Field--	Gravity A.P.I.	Per cent sulfur	Per cent gasoline and naphtha	Base	Maximum production in the year	References
Caillou Island	....	(*)	(*)	.....	1936	...
Gillis	38 0	0 12	31 5	Inter.	1936	(7)
Rodessa, La.-Tex.	41 8	0 25	27 5	Para.	1936	(6)
Caddo	35 0	0 25	25 7	Para.	1927	(1)
Haynesville	35 0	0 35	19 0	Para.	1927	(2)
Bosco	38 0	Less than 0 1	17 2	Inter.	1935	(4)
Leesville	28 2	0 38	15 8	Inter.	1935	(3)
Iowa	41 5	0 10	34 2	Inter.	1935	(3)
Urania	21 3	0 35	0	Naph.	1927	(5)

*No data available.

TABLE 2—PROPERTIES OF MISCELLANEOUS CRUDE OILS

Field—	Gravity A.P.I.	Per cent sulfur	Per cent gasoline and naphtha	Base	Maximum production in the year	References
Smackover, Ark.	19 8	2 40	7 3	Naph.	1927	...
El Dorado-Champagnolle, Ark.	34 2	0 79	28 8	Inter.	1928	(1)
Salt Creek, Wyo.	36 8	0 18	29 3	Inter.	1927	(1)
Hobbs, N. Mex.	34 2	1 48	32 6	Inter.	1931	(5)
Eunice, N. Mex.	36 0	1 37	32 7	Inter.	1936	(4)
Sunburst, Mont.	31 9	1 47	21 6	Inter.	1927	(1)
Bradford-Allegany, Pa.-N. Y.	41 6	0 1	31 0	Para.	1935	(1) (5)

Important Fields

From 1927 to 1932, the properties were governed largely by the relative amount of production from the Caddo, Haynesville and Urania fields. In 1933 the intermediate base oil from the Iowa field began to exert an influence, in 1934 the Leesville field became important and in 1935 the three intermediate base fields, Bosco, Leesville and Iowa all came to peak production during the same year. In 1936 the balance was upset again by the large production of paraffin base oil from the Rodessa field. Part of the Rodessa field lies in Texas, but in this study the entire production was credited to Louisiana.

The gasoline content and gravity has been influenced most greatly by the Iowa field (1933) and the Rodessa field (1937), both of which produce oils that are of higher gasoline content and higher gravity than most other Louisiana oils. These two oils also contain a smaller amount of sulfur than the average of the other oils and hence they have been powerful in reducing the average sulfur content of Louisiana oils.

The great increase in production in Louisiana since 1933 has tended to upset the average properties of the crude oils produced in the state so that the averages given prior to 1933 are of little significance.

Miscellaneous Crude Oils

Approximate properties of several miscellaneous crude oils are shown in Table 2. The production from each of these fields is large enough to place them among the 99 largest producing fields in the country. However, the effect of these oils on the average type of oil produced in the United States is not great because the production from them is not large and because the amount of production from each field is relatively steady.

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3. Kraemer and Gaston, Bur. of Mines, Circ. 6111 April, 1929.
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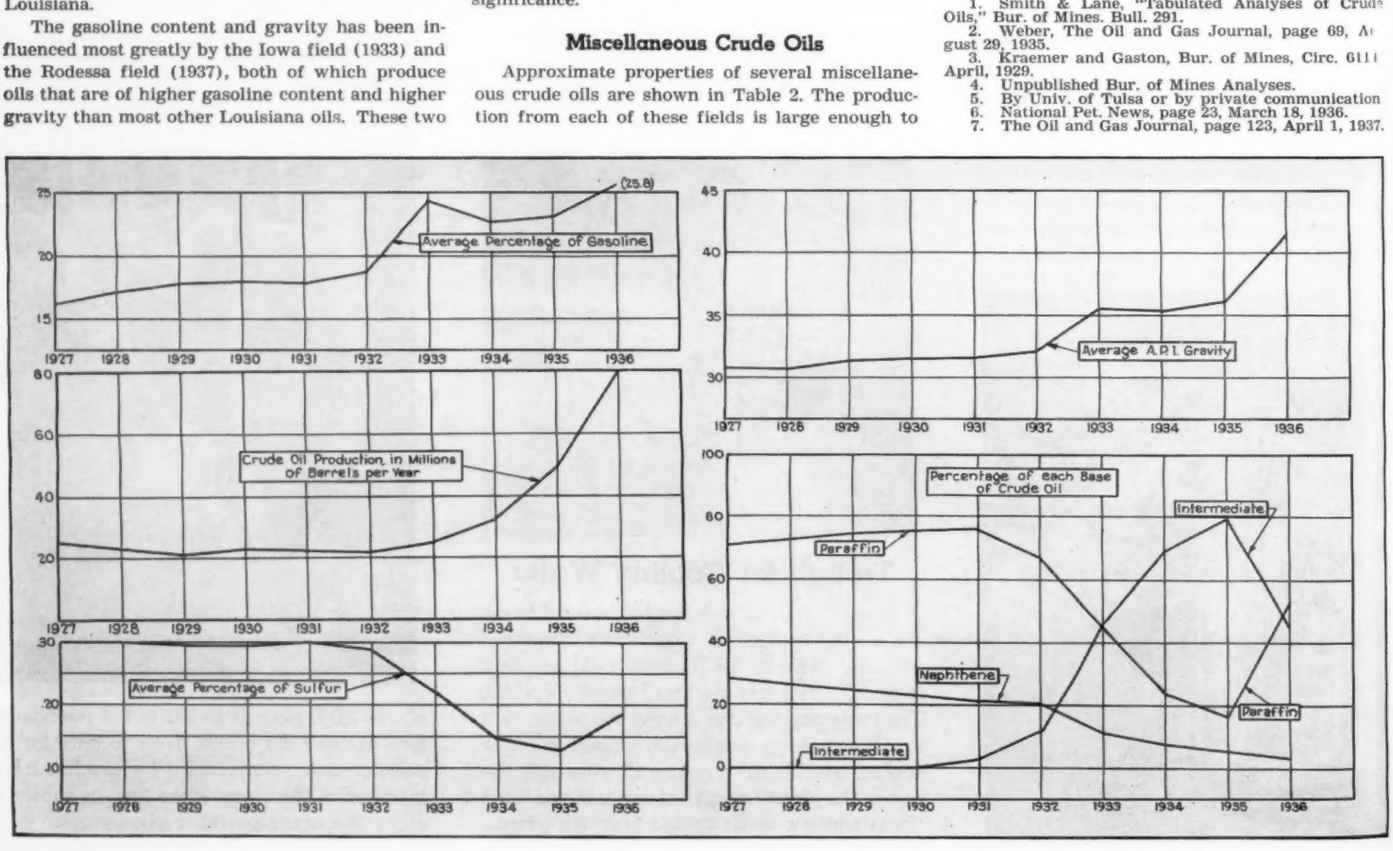
5. By Univ. of Tulsa or by private communication
6. National Pet. News, page 23, March 18, 1936.
7. The Oil and Gas Journal, page 123, April 1, 1937.



PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Are Oil Fields Ever Exhausted?

In various text books on oil, some of which are written by eminent authorities, we have come across the following sentence:

"It is a recognized fact that no pool yet discovered producing from a 'true oil sand' has ever been exhausted or abandoned."

Would you be so good as to advise us if this statement is true, and can be substantiated?—D. C. W.

The question you ask in your letter is most interesting but very difficult to answer directly.

In the first place it would be necessary to classify in more detail the meaning of a "true oil sand." It would also seem necessary to place some value on the percentage of saturation of the sand body with gas and oil.

If it is assumed that the reference covers a sandstone reservoir well saturated with gas and oil there seems to be nothing in the records to indicate that any such oil pool has been entirely exhausted or abandoned.

It is known that more than 2,500 oil fields of all classes have been found in this country since 1859. Today's records indicate there are about 1,500 to 1,600 oil fields in this country. This would mean that about 1,000 oil fields have been abandoned or small fields have been consolidated and original pool names dropped. Then it is not known how many of these fields were "true oil sand" producers.

Another way to check this statement is to consider the total completions and total number of oil wells now producing. For this comparison it is found that 677,720 oil wells were recorded as having been drilled in this country since 1859 and as of June 30, 1937, there were about 345,473 oil wells reported as producing. This means 49 per cent of the original wells have been abandoned.

It is known that there were many hundreds of oil wells temporarily shut down June 30 but still capable of producing oil.

If the statement is intended to imply that a well-saturated true oil sand requires a long time to exhaust of all of the oil that will flow to the well it is quite probable that no oil field of this type is yet old enough to be entirely exhausted and therefore abandoned because of inability of the operators to secure additional oil. It is known that in many instances wells have been temporarily shut down because of low price of oil but later reconditioned and put to pumping again.

One other way to consider this matter is to compare oil recovered during the life of the field and oil still remaining in the sand.

The Bartlesville sand of northeastern Oklahoma was drilled in 1907 through 1916 or say from 20 to 30 years ago. The production per acre recovered before water-flooding was undertaken two or three years ago was generally reported as from 2,500 to 8,000 bbls. per acre. Cores show there still remains in the sand from 10,000 to 18,000 bbls. of oil per acre of which about 50 per cent is recoverable by water-flooding operations. This would mean an average additional recovery of about 7,000 bbls. per acre or as much additional oil as taken out in the average 25-year period. As drainage rate will be slower during the later life of the sand wells it seems logical to predict that it would take another 25 to 35 years to allow the fields to become so nearly exhausted that no oil would flow into some of the wells.

This is about the best answer we can give to this question but it is hoped some of our readers will be interested enough in this problem when published to send us in their opinions and citations. If such information is received it will be promptly forwarded to you.

Why Is a Choke Used in Tubing?

I find the following statement in The Oil and Gas Journal reporting on a new well on the Gulf Coast: "After a test the well was again loaded with mud and the drill stem pulled and a string of 2½-inch tubing run and the well then put on production through a 13/64-inch choke on tubing and made about 5 bbls. of oil per hour with a little drilling mud and water and 2,000,000 feet of gas daily." In another report it is stated a "3/16-inch choke was used at the tubing head." What does this mean?—C. E. G., Jr.

That portion of your letter concerning the reports published in The Oil and Gas Journal from time to time about producing a well through chokes has been referred to this department for answer.

It would seem your interest is in a description of a "choke" and its use.

A choke is in reality an orifice, usually elongated, and made in three general types, adjustable, replaceable and fixed. The simplest type of choke is made by drilling a round hole through a piece of steel, the hole being of considerably smaller diameter than the diameter of the pipe into which the choke is fitted.

The purpose of the choke is to increase the velocity of the gas and oil passing through it. If a given volume of gas and oil mixture under pressure is caused to pass from one portion of a pipe to another through a restricted opening in a choke the velocity of the gas-oil mixture through the hole in the choke will be materially increased.

The choke may be placed in the flow string either at the bottom of the well or at the top of the tubing on the surface. It may be that chokes are placed in both positions but bottom-hole choking has gained favor. Since, in a normal well, the velocity with which the column of gas is moving generally has a direct bearing upon the quantity of oil it can lift, probably the main purpose of bottom-hole choking is to accomplish an increase in the velocity of this rising column, particularly in the lower portion of the tubing string. This is done by expansion of the free gas accompanying the oil and by liberating and expanding some of the occluded gas normally carried in the oil to the surface. As the gas-oil mixture leaves the choke it expands quickly and this tends to atomize the oil which results in a more intimate and uniform mixture of oil and gas.

In making reports on wells being tested and producing through chokes it is customary to state where the choke is located and the size of the opening. Diameter of hole in choke is usually reported in sixty-fourths of an inch or some multiple of that fraction.

Largest Wells

I would like to know the daily yield of such wells as the Huasteca Petroleum Co.'s Casiano wells, the Aguila company's No. 4 Potrero del Llano, wells like Spindletop at Beaumont, Tex., Lake View well in Kern County, California, although this last well would be hard to figure as it blew out and could not be controlled for weeks afterward. Any information you can give me concerning the above wells and similar gushers will be appreciated.—L. T.

Enclosed you will find a tear sheet from the October 4, 1934, issue of The Oil and Gas Journal containing an article by T. F. Smiley entitled "Every Wildcat Is a Bet With Gusher the Prize." In this article you will find records of the large wells in all parts of this country and some mention of the large wells of Mexico.

The largest well in the United States was Marathon Oil Co. (now Ohio Oil Co.) No. G-30,, I. G. Yates A lease, Yates pool, Pecos County, Texas, which flowed at the rate of 7,705 bbls. an hour or 184,920 bbls. per day. This well is still producing.

Spindletop, Texas, wells were given big ratings but none were actually gauged. It has been estimated that Lucas' gusher produced from 50,000 to 100,000 bbls. a day. After the well was brought under control it filled a 35,000-bbl. tank in a little less than 12 hours, placing the potential of the well at about 70,000 bbls. per day.

The two most famous wells in Mexico were Mexican Eagle Oil Co. No. 4 Potrero del Llano and the Huasteca Petroleum Co. No. 7 Juan Casiano, in the southern fields of the Tampico region, frequently referred to as the "Golden Lane." These wells produced from the El Abra limestone found in No. 4 Potrero del Llano well at a depth of 1,715 feet below sea level datum.

This well was completed December 26, 1910, and produced out of control an estimated volume of 100,000 bbls. per day until January 25, 1911. During the life of this well 94,000,000 bbls. of oil was actually put into tanks but it is estimated more than 100,000,000 bbls. were produced.

Huasteca Petroleum Co. No. 7 Juan Casiano located about 45 miles northeast of the Potrero del Lano well was completed September 11, 1910, at a depth of 2,112 feet. It started flowing at the rate of about 50,000 bbls. daily. It was pinched down to 22,500 bbls. a day and produced that volume until November 7, 1919, producing in all about 75,000,000 bbls. of oil. It was the only well in the Juan Casiano Valley of importance.

In California the largest well reported is the Lakeview Oil Co. No. 1 in the McKittrick field which came in with terrific pressure in March, 1910, and made 65,000 bbls. of 20-degree gravity oil per day. Four years later, Lakeview No. 2 well came in for 50,000 bbls. per day. Like many other oil field romances, well No. 1 was started by a small oil company which encountered so many difficulties in drilling the hole that they finally sold their holdings to Union Oil Co. The latter company spent eight months and considerable money to straighten the hole, but were rewarded with the biggest gusher of oil ever drilled in California. The well produced over 9,000,000 bbls. of oil before it was rated as a 10-bbl. stripper.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Nitrogen and Other Inert Gases in Natural Gas

Six thousand cubic feet of gas containing methane 12 per cent, ethane 7.3 and nitrogen 80.7. Production being stimulated by repressuring with air. Has this any commercial value? Could nitrogen be profitably separated? —F. L.

The analysis does not appear to represent a natural gas. The high nitrogen content suggests air since the atmosphere contains about 80 per cent nitrogen and 20 per cent oxygen. If the quantity of hydrocarbons is correct, then one would expect less nitrogen and some oxygen.

The volume, 6,000 cubic feet, is too low to be of commercial importance. The B.t.u. value is very low and probably the gas is noncombustible. Any well producing 80 per cent nitrogen should be investigated for helium. In this instance the nitrogen may originate in the air used in repressuring, and not in the producing gas formations.

Nitrogen is a commercial product which is compressed under 2,000 pounds pressure in steel cylinders usually containing 200 cubic feet. This gas may sell at the rate of $2 to $3 per 100 feet, depending on the quantity purchased.

The nitrogen of commerce is obtained from air as a by-product when preparing liquid air and oxygen. The gas used to fill incandescent lamp bulbs contains approximately 86 per cent argon and 14 per cent nitrogen. Special types of lamps require a higher grade of argon, so the nitrogen must be removed. This is done by either combining the nitrogen with calcium or magnesium.

H. S. Colton states:

"The equipment for removing the nitrogen employs special alloy steels in its manufacture. The reaction of magnesium and/or calcium with nitrogen does not proceed at ordinary temperatures and pressures, but when the temperature is raised to redness, the nitrogen begins to react with the metal, slowly and incompletely, to form the nitride. In order to speed up this reaction and carry it on toward completion the pressure must also be increased. Since ordinary steel loses strength very rapidly above red heat it is necessary to use stainless steel or even special alloy steels containing elements such as molybdenum, which serve to toughen the steel at elevated temperatures."

Reference: H. S. Colton, The Inert Gases, Their Production and Uses, Chem. Met. Eng., 44, 484, 1937.

Gasoline Consumption and Cars in Great Britain and U. S. Compared

What is the consumption of gasoline in automobiles in Great Britain as compared with the United States? What are considered to be the chief reasons for the small number of cars operated in England?—G. H. Y.

Certain data, stated to be approximate estimates, have been compiled by the Petroleum Times, which appears to be the only information relating to the subject which has been conveniently arranged. The figures used here are from this source.

The consumption of gasoline is directly related to the type and number of vehicles. The number of vehicles in use during the year 1936 is estimated for the United Kingdom and the United States as shown in the table.

VEHICLES IN USE IN 1936

Type	United Kingdom	United States
Cars	1,713,000 78%	24,168,000 86%
Buses	39,600 2%	123,000 0.5%
Trucks	457,000 20%	3,795,000 13.5%
Total	2,209,600	28,086,000

There is one automobile owner for each five persons in the United States as compared with only one in 27 for the United Kingdom. There are several contributing reasons for the small number of cars in England and other European countries. Wages and salaries are not so high as in the United States. The bicycle is popular with apparently little tendency toward "keeping up with the Joneses" by owning an automobile, because the thousands of Joneses and Zilches go places on their bikes. The combined vehicle and motor fuel tax in the United Kingdom is about five times that imposed in the United States and the retail price abroad is much higher.

The consumption data are given in the table.

GASOLINE CONSUMPTION
(Imperial gallons)

Type	United Kingdom	United States
Cars	634,700 48%	10,575,000 70%
Buses	185,500 14%	1,166,000 8%
Trucks	495,300 38%	3,414,000 22%
Total	1,315,500	15,155,000

The private cars of the United States use 70 per cent of the total gasoline, the buses and trucks the remainder, except for a small volume used for various purposes. In the United Kingdom cars consume only 48 per cent, whereas the buses and trucks use 52 per cent of the total fuel.

Reference: Petroleum Times, August 14, 1937, p. 216.

CHEMICALS FOR THE PETROLEUM INDUSTRY

Oleic Acid
(Oil Red or Elaine)

Use—Grease making, thickening agent for lubricating oils, candle making.
Form—Colorless needles.
Formula—$C_{17}H_{33}COOH$.
Specific gravity—0.8938.
Melting point—57° F.
Boiling point—547° F.

LIMITATIONS

Specific gravity	0.89
Acidity as oleic, % min.	95
Color, A.S.T.M., max.	5
Solidification point °F., max.	30

Note.—Commercial grades include—Saponified, distilled, oil red and chemically pure.

Checking Volumes in Tanks With Car Loadings

When loading fuel oil, about 12/14° A.P.I.; we cannot check volumes in the tanks with car loadings. We use A.S.T.M. tables and the temperatures don't often go above 140° F. What is the chief error in such work?—S. G. E.

Without having much more information than has been given it is quite impossible to venture an opinion concerning the specific problem.

When measuring a large volume of liquid there are a number of variables involved. It is seldom necessary to know the exact quantity of oil in a tank. The method for calculating the capacity of a tank at any and every level is not expected to give more than a reasonably close approximation. The instruments for measuring depths of liquids and temperatures are always manufactured and sold to be used in a commercial operation and therefore certain tolerances should be permitted in their use.

The delivery of a volume of oil from a tank to a car is in most instances quite closely checked. Any error is usually traced to improper observation of temperatures or to poor gauging. This is granting that tank and car volumes have been determined with sufficient accuracy when put into service and that no alterations have been made. Sometimes errors are made in determining the gravity of an oil, especially a hot fuel oil, which as a result do not give the correct figures when converted to weights or volumes.

In actual practice there are very few actual mistakes made in measuring the larger volumes of petroleum liquids. Small differences are found due to coefficients of expansion, or factors based on them, being applied to groups that are too widely separated in density. E. S. L. Beale has offered a set of correction factors.

TEMPERATURE CORRECTION FACTORS FOR PETROLEUM OILS

Specific gravity at 60 °F.	Correction factor per °F.	Specific gravity at 60°F.	Correction factor per °F.
0.615 to 0.625	0.00055	0.746 to 0.756	0.00044
0.625 to 0.635	0.00054	0.756 to 0.765	0.00043
0.635 to 0.645	0.00053	0.765 to 0.775	0.00042
0.645 to 0.656	0.00052	0.775 to 0.786	0.00041
0.656 to 0.667	0.00051	0.786 to 0.798	0.00040
0.667 to 0.680	0.00050	0.798 to 0.814	0.00039
0.680 to 0.692	0.00049	0.814 to 0.830	0.00038
0.692 to 0.707	0.00048	0.830 to 0.850	0.00037
0.707 to 0.720	0.00047	0.850 to 0.890	0.00036
0.720 to 0.734	0.00046	0.890 to 0.960	0.00035
0.734 to 0.746	0.00045	0.960 and over	0.00034

When large volumes must be determined with a reasonable degree of accuracy, as in tanker shipments, it is good practice to have tables available, the factors for which have been found from the proper coefficients. Beale states: "Moderately waxy fuel oil of S.G. 0.925 may have a correction factor of 0.00034 per degree Fahrenheit at temperatures above 130° F., whereas at 60° F. the correction factor for the same oil may be over 0.00045 per degree Fahrenheit. If the specific gravity of an oil of this type is corrected from 130° to 60° F. by means of the normal factors suitable for nonwaxy oils, the error will be in the region of 0.003 in specific gravity."

Reference: E. S. L. Beale, A Table of Specific Gravity Correction Factors for Petroleum Oils, J. Inst. Pet. Tech., 23, 213, 1937.

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NEW YORK, N. Y.

SERVICE ON NEW FIELDS

WILMINGTON, LOS ANGELES COUNTY, CALIFORNIA

Compiled by The Oil and Gas Journal, October 30, 1937

Approved name:

Wilmington field.

Geographical location:

Los Angeles County, California. Twenty miles due south of Los Angeles metropolitan area and midway between San Pedro and Long Beach, and adjacent to Los Angeles Harbor. Part of the field is within the Los Angeles city limits.

Type of country:

Very gently rolling or flat topography ranging from 10 to 40 feet in elevation. Part of the field is located on tidelands which have been raised above sea level with material dredged from the channels of the harbor. The area is served by good hard-surfaced roads.

Surface evidence of structure:

There is no surface evidence of structure except for a slight rise of elevation east of the flood control channel. All structural work has been by subsurface means.

Method of discovery:

Presence of the structure was determined by correlation of subsurface data from neighboring wildcat wells with seismograph surveys.

Type of structure:

An irregularly-shaped dome with faulting transverse to the principal axial trend, and the dip of the strata ranging from 3 to 15 degrees. Five oil zones have been found in the Repetto formation of Lower Pliocene and in the Puente formation of Upper Miocene. Producing formations are of the same age as at Torrance, El Segundo, Del Rey, and other marginal fields of the Los Angeles Basin. The Long Beach field, several miles northeast of the Wilmington field, is productive through 3,000 feet of Repetto formation and approximately 3,000 feet of the Puente formation, whereas at Wilmington only 700 to 800 feet of Repetto and about 2,500 feet of Puente contain productive strata.

Columnar section:

San Pedro sands and gravels of Quaternary age make up the surface sediments to a depth from 500 to 700 feet, lying unconformably on the Upper Pliocene. The Upper Pico of the Pliocene lies unconformably on the Repetto of the Lower Pliocene throughout the high parts of the field. Some middle Pico is found on the north flank and on a fault block in the field. The Repetto is conformable with the Miocene, the Upper Miocene being marked by grey-white diatomaceous shale with thin streaks of oil sand in the upper 100 feet. Downward it grades into brown massive or platy shale. Numerous calcareous or porcelaneous shale streaks are encountered in the Miocene column, but it is fairly uniform down to the Middle Miocene, which has been found at a depth of 6,425 feet. The Middle Miocene overlies schist, believed to be Franciscan, which has been found at 6,787 feet.

Oil and gas zones:

1. Tar zone. This uppermost producer lies in the Repetto formation at depths of 2,400 to 2,800 feet, and is from 225 to 350 feet thick. Of this thickness an average of 33 per cent consists of oil sand. The sediments grade from micaceous silts at the top to fine and coarse oil sand at bottom. The oil gravity range is from 12.5 to 15 degrees A.P.I., containing 0 to 4 per cent gasoline content and 2 to 2.5 per cent sulfur.

2. Ranger zone. At a depth of 2,600 to 3,500 feet, this formation is 200 to 340 feet thick, of which approximately 35 per cent is oil sand. At top is a firm shale with an abundance of foraminifera. The principal oil sands lie in the upper 200 feet. Ranger wells have initial productions from 50 to 3,000 bbls. The gravity is 14.4 to 23.4 degrees A.P.I.; the gasoline content is 3 to 21 per cent; and the sulfur content is 1.2 to 2.2 per cent.

3. Terminal zone. Occurring in the Puente formation 200 feet below the Pliocene-Miocene contact at a depth of 3,050 to 3,450 feet, this zone consists of alternate sands and brown shales and has a thickness of 40 to 600 feet, 50 per cent of which is oil bearing. Initial production of wells in this zone ranges from 300 to 2,000 bbls. of 17- to 25-degree A.P.I. gravity oil. The oil of the lower gravity is found west of the Wilmington fault. Gasoline content is 7.5 to 17.5 per cent, while sulfur content varies from 1.3 to 2.5 per cent.

4. Lower Terminal zone. This zone has been penetrated in only a few wells. Its top is encountered at depths between 3,650 and 3,800 feet. Approximately 50 per cent of its 300 feet of sediments consists of oil sand. It is a prolific horizon, initial production being approximately 2,500 bbls. of 27- to 31-degree A.P.I. gravity oil with a gasoline content of 34 per cent, and a sulfur content of 0.9 per cent.

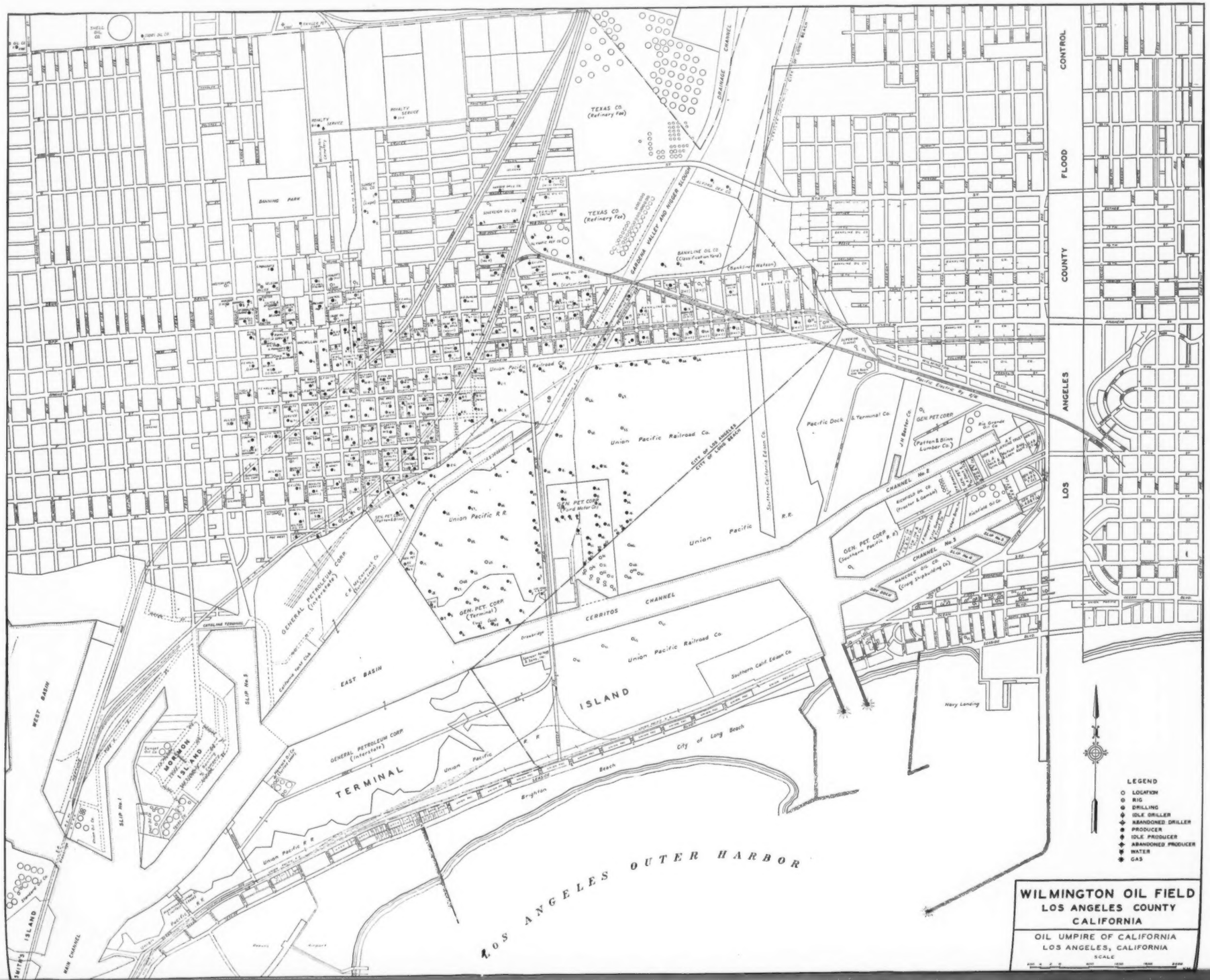
5. Ford zone. The Ford zone was so named because it was found in the vicinity of the Ford assembly plant at a depth of 4,800 to 5,100 feet. With a thickness of approximately 500 feet, initial production has been 500 to 700 bbls. per day. Gasoline content is 31 per cent, and sulfur content is 0.8 per cent.

Faulting:

Four normal faults have been outlined:

The Wilmington fault crosses the western part of the field, has a throw of 160 to 275 feet at the Miocene contact, and an average hade of 30 degrees to the east.

Two parallel faults, known as the Graben faults, cross the central portion of the field. The hade of each is about 20 degrees to the east.


TEXAS CO. (Refinery Fee)
BANNING PARK
ROYALTY SERVICE
GARDENA VALLEY AND HIGGER SECTION
BANKLINE OIL CO. (Cross-Fuston Yard)
DRAINAGE CHANNEL
CONTROL
FLOOD
COUNTY
LOS ANGELES
Union Pacific Railroad Co.
Union Pacific R.R.
Pacific Dock & Terminal Co.
GEN. PET CORP.
CHANNEL No. 2
CHANNEL No. 3
CERRITOS CHANNEL
EAST BASIN
WEST BASIN
ISLAND
TERMINAL
GENERAL PETROLEUM CORP. (Interstate)
MORMON ISLAND
SLIP No. 1
SLIP No. 3
Southern Calif. Edison Co.
City of Long Beach
Brighton Beach
Navy Landing
LOS ANGELES OUTER HARBOR
LEGEND
LOCATION
RIG
DRILLING
IDLE DRILLER
ABANDONED DRILLER
PRODUCER
IDLE PRODUCER
ABANDONED PRODUCER
WATER
GAS
WILMINGTON OIL FIELD
LOS ANGELES COUNTY
CALIFORNIA
OIL UMPIRE OF CALIFORNIA
LOS ANGELES, CALIFORNIA
SCALE

SERVICE ON NEW FIELDS

The westerly fault has a throw of 30 to 60 feet while the easterly fault has a throw of 50 to 80 feet.

What is known as the "Dominguez-Harbor" fault is found farther east. The beds are upthrown on the west and downthrown on the east. A large upthrown block is found on the north flank of the structure.

Sedimentation:

Shale beds in the Pliocene show considerable thickening in depressed areas and sand beds show a thickening on high portions of fault blocks. There is also a progressive thickening of the sands to the north.

Development of field:

The Wilmington field was producing as early as 1932, when a Ranger well was brought in for 75 bbls. per day. The area came into prominence as a major producing area during the fall of 1936 when General Petroleum Corp. completed its No. 1 Terminal well in what was named the "Terminal zone" of the Upper Miocene for a production of 1,500 bbls. per day. A drilling boom was brought on in December, 1936, in the northwesterly portion of the field, where land ownership is extensively subdivided. Since that time the field has been the most active area in California.

Curtailment:

On July 2, 1937, the average daily production was 463 bbls. per well. On this date curtailment was effected, resulting in a drop to 269 bbls. By September 1 the daily average had dropped to 230 bbls.

Drilling:

Drilling is entirely by the rotary method using steam power predominantly. Some gas engines and electric-motor drives are used. Drilling is comparatively easy. No unusual conditions such as caving, lost circulation, or high-pressure gas are encountered. Fishtail bits are employed for most of the drilling, but some rock bits are used in calcareous members of the Ranger and Terminal zones. Eighteen to 30 days are required to complete a well from 3,300 to 3,600 feet deep. It is common practice to drill to the Tar zone, run an electrical logging survey; then after setting the water string and drilling the productive strata, another electrical survey is made. Electrical logging, assisted by studies of micro fossils, has made subsurface correlation possible. Cost of drilling ranges from $30,000 to $60,000 for Ranger and Terminal zone wells. In some areas soft soil, requiring piling, greatly increases the cost of rig foundations and road building.

Casing programs:

Where intervening water does not interfere, many wells are completed to produce from two zones, such as the Tar and Ranger together, or the Ranger and Upper Terminal together, or the two Terminal zones together. For this reason casing programs are unusually dissimilar in the various wells. Surface conductors are 13, 16, 18, or 20 inches, usually about 100 feet long, but they vary from 90 to 700 feet. For the shallower zones a water string is commonly cemented above the zone to be produced. This may be 8⅝-, 10¾-, 11¾-, or 13⅜-inch. Through the oil zone 6⅝-, 8⅝-, or 9-inch perforated pipe is used, which may be either a liner or part of a complete oil string. For Terminal zone wells the water string is usually omitted, and the oil string is set with a combination shut-off at the top of the zone. On Lower Terminal and Ford zone wells 4½- and 5½-inch liners, or oil strings, are often set in the pay, and sometimes combination shut-offs are used. Perforated pipe used is predominantly 80-mesh.

Production practice:

Most completions are normal flowing wells. The largest well to date produced 7,700 bbls. per day with both Terminal zones open. Tubing is set above the perforations and water is circulated with subsequent swabbing, if needed to induce flow. Since there is no gas cap, the gas-oil ratios are low, averaging about 400 feet per barrel, but tending to increase with the rate of withdrawal. The gasoline content of the gas varies from 0.5 to 2.0 gallons per 1,000 cubic feet.

The most serious trouble encountered in producing the wells is due to sand coming into the holes, necessitating frequent clean-outs. Sand trouble is partially avoided by the use of unvarying back pressures on the flowing wells.

Pipe line facilities:

Part of the field is served by pipe lines operated by General Petroleum Corp and Richfield Oil Corp. Practically all oil produced in the western portion of the field is shipped by truck to Los Angeles Basin refineries. Gas is being purchased in part of the field by General Petroleum Corp. for supply at its recently completed absorption plant in the field. On October 18 Standard Oil Co. started construction of 15 miles of 8-inch to connect the Wilmington field with its system at Hynes. Specifications call for completion on or before November 15.

Price of oil:

Price range has been established at 75 cents per barrel for 14-degree gravity oil to $1.21 per barrel for 30-gravity oil.

Present status:

On October 25, 291 wells had been completed. The daily field potential is 142,311 bbls. Total production to October 1 was 8,564,000 bbls. There are 24 drilling wells. Approximately 3,000 acres are proven for production. Many locations have been staked in the Long Beach area. The first locations were staked on Terminal Island on October 27.

Prospects:

Approximately one-half of the field has been partially developed. That part lying under the city of Long Beach has not yet been opened to drilling. It is believed that a productive area as large as that which has already been developed exists under this municipality and under the adjacent tidelands. In the partially developed portion of the field it is significant that only three wells have penetrated the Ford zone.

Acknowledgement: Paper presented before A.I.M.E. fall meeting, October 1 at Los Angeles, Calif., by E. J. Bartosh, Bankline Oil Co., from which much of this data has been extracted.

FIELD OPERATIONS

Summarizing the Week's Developments

A wildcat 2½ miles southeast of the Darst Creek field in Guadalupe County, Texas, flowed at the rate of 2,000 bbls. a day through 2-inch tubing at a total depth of 2,585 feet. Later it flowed at the rate of 528 bbls. a day through quarter-inch choke. Extensions and new sands were reported in McCampbell, Luby, Clara Driscoll and South Clara Driscoll fields in Southwest Texas. The outstanding development in the North Central Texas fields is in the deep sands in the Kemp City or K. M. A. field in Wichita County where recent extensions indicate a field of large area. The Harper field in Ector County was extended 1¼ miles and the Goldsmith field in Ector County was extended a mile northerly. A 740-bbl. well in the Seabreeze gas field in Chambers County on the Gulf Coast is a noteworthy completion. The Hardin field in Liberty County was extended and new sands were opened in the Refugio and McFadden fields.

TEX-LA-ARK DIVISION

The Arkansas Board of Conservation in fixing the allowable for the Miller County side of the Rodessa field permits a per well allowable in that part of the field five times greater than the allowable in the Louisiana and Texas parts of the field. One hundred ninety wells in the Texas-Louisiana Rodessa field are producing water with the oil, volumes ranging from 2 to 95 per cent. Ten wells are drilling to the third Schuler field pay in Arkansas.

KANSAS

In Kansas a Wilcox sand pool was opened 5 miles south of Wichita, Sedgwick County, the discovery well pumping 204 bbls. in seven hours from the top of the pay. Stafford County has prospects of a new Siliceous lime pool in section 12-22-13w. Two Barton County wildcats were giving indications of being pool discoveries, one in section 18-16-13w, and the other in section 13-16-14w. Russell and Rice counties also have promises of a discovery each. A 100-bbl. well was completed in Anderson County in the eastern part of the state.

OKLAHOMA

A wildcat between the Lucien and North Lucien pools of Noble County was completed as a producer, in section 6-20-2w. A small pool opener was completed in section 27-6s-2e, to give Love County its second producing area.

CALIFORNIA

The Rio Bravo area and the Arvin district in California have production possibilities. The Wilmington field is showing an abnormally high decline but it may be brought back by the development of the Long Beach part of the field which will soon have many wells drilling. Good wells were completed in Santa Maria Valley, and Midway-Sunset fields.

EASTERN FIELDS

A test to the St. Peter sand drilled near Findlay, Ohio, proved dry. The second Sliverville sand well in the Bradford field in Pennsylvania which started at 40 bbls. an hour, was flowing 20 bbls. an hour four days later. The sand is a stray, lying above the Bradford sand. Thirteen oil wells were added to the Illinois Basin fields. Michigan's production of 54,319 bbls. per day in the past week was close to record heights for the state.

Completions in All Fields

(Week Ending October 30, 1937)

	Oil	Gas	Dry	Total	1937 total comp. to date	1936 total comp. to date
N. Y., Pa., W. Va.	70	19	8	97	3,753	3,269
Ohio	10	15	11	36	1,000	650
Indiana	1	0	0	1	88	159
Kentucky	10	1	10	21	557	260
Illinois	13	0	7	20	219	34
Michigan	8	1	5	14	661	699
Kansas	38	1	16	55	2,188	1,412
Oklahoma	29	3	16	48	2,260	2,206
Texas:						
North Central Texas	29	2	17	48	2,355	2,312
West Texas	47	1	7	55	2,249	1,331
Texas Panhandle	22	2	1	25	660	555
East Texas	47	0	0	47	1,980	2,186
East Central Texas	20	0	2	22	609	310
East Texas Border	4	0	0	4	286	117
Gulf Coast Texas	25	1	3	29	1,301	1,047
Southwest Texas	44	4	17	65	2,741	2,422
Total Texas	238	10	47	295	12,181	10,280
North Louisiana	6	1	2	9	547	578
Gulf Coast Louisiana	4	1	2	7	377	346
Total Louisiana	10	2	4	16	924	924
Arkansas	5	0	5	10	142	75
Montana	1	1	2	4	192	208
Wyoming	0	1	1	2	91	100
Colorado	0	0	0	0	17	23
New Mexico	8	0	0	8	602	488
Utah	0	0	0	0	3	5
California	13	0	7	20	1,262	965
Total United States	454	54	139	647	26,140	21,752
Total previous week	496	41	117	654		
Difference	42	13	22	7		

Outstanding Fields—Highlights

(Week Ending October 30, 1937)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
Hastings	4	24	11	6,083	351	20,637
McCampbell	1	15	3	230	76	3,850
Saxet	3	16	4	425	559	44,650
Benavides	4	15	2	170	81	6,050
East Texas	54	101	47	2,233	26,818	485,947
Talco	4	28	15	4,583	530	34,750
Ector County	14	95	19	16,144	697	31,900
Winkler County	9	42	8	5,775	1,472	44,600
OKLAHOMA						
Fitts	3	32	3	1,294	909	79,250
Billings	2	6	1	858	54	7,875
KANSAS						
Barton County	12	54	6	4,617	247	10,390
Ellis County	7	39	8	14,219	237	7,950
Russell County	12	50	5	1,531	911	25,060
Rice County	6	35	5	4,659	1,011	40,195
NEW MEXICO						
Lea County	18	114	7	902	1,509	95,950
LA-ARK-TEX						
Rodessa, Ark.	5	25	4	3,000	30	15,109
Rodessa, La.	2	11	0	0	414	45,219
Rodessa, Tex.	4	20	4	1,960	357	28,198
Lisbon, La.	3	11	3	2,420	139	6,697
Jennings, La.	2	13	0	0	72	10,637
MICHIGAN						
Buckeye	11	60	3	1,160	271	26,324
CALIFORNIA						
Wilmington	9	25	4	4,004	295	59,181
ILLINOIS						
Central Illinois	32	103	13	4,117	173	15,116

Eastern Field Report

DEEP TESTS IN TWO STATES OF UNUSUAL SIGNIFICANCE

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Nov. 1.—Three important wildcat deep tests reached the lower Devonian during the past week in Pennsylvania and West Virginia and the outcome of these will have a tremendous bearing on future deep tests. In Washington district, Jackson County, West Virginia, the United Carbon Co. reached the top of the Oriskany sand at 5,442 feet in the test on the Elizabeth Ward Perkins farm, after drilling through 134 feet of Corniferous lime, the corrected top of which was 5,308 feet. After drilling four feet to 5,446 feet, the test was shut down to install a master gate. No gas was reported at that depth. This test is listed as No. 2 on this farm. No. 1 after cementing back to 4,700 feet is now at about 4,995 feet and drilling up a bailer lost at 5,010 feet.

In Roane County, West Virginia, the Ohio Valley Gas Co. topped the Corniferous lime at 5,254 feet in the test on the M. C. Larch and others farm in Harper district, and shut down and ran casing to 5,256 feet. The elevation of the mouth of this test is 993 feet and it is running higher than the Jackson County test.

In Southwest Pennsylvania, the test of Norwood P. Johnston and others on the James McBurney farm south of Hickory in Mount Pleasant Township, Washington County, topped the Onondaga at 6,475 feet and is now drilling in lime and chert at 6,485 feet.

SOUTHEAST OHIO

In section 26, Wayne Township, Columbiana County, Ohio, the test of the Natural Gas Co. of West Virginia is drilling at 6,275 feet on the D. Deseilem farm after running casing to 6,100 feet. The top of the Clinton sand should not be more than 100 feet below the present drilling and it will be the first test to that formation in this section.

In Belmont County, Union Gasoline and Oil Corp. completed No. 3 William Stobbs Heirs in section 26, Richland Township, in the Berea sand at 1,792 feet. It is good for 2 bbls. a day after shot.

In Licking County, Wehrle Co. completed a test on the Caldwell and Currie lease, Lot 2, Hopewell Township, in the Clinton sand at a depth of 3,035 feet. It produced 50 bbls. the first day after shot.

In Medina County, L. B. Curtis drilled a dry hole on the Ward Thomas farm, Lot 18, Chatham Township, through the Berea grit to 510 feet.

In Monroe County, the Sutton Brothers completed No. 18 J. R. Deist farm in section 9, Perry Township, in Injun sand at 1,482 feet. It produced a half barrel the first day after shot.

In Muskingum County, the Gas Producing Co. of Ohio completed a test on the Edward Myers farm in the southwest corner of Wayne Township, section 32, in the Medina sand, total depth 4,180 feet. It produced 30 barrels the first day after shot.

It is expected that drilling operations will be considerably lessened by the present curtailment in the Macksburg field which limits runs under sales contracts to 50 per cent of the average of the past several months. This was caused by the withdrawal as purchasers of Buckeye Pennsylvania grade crude of one large customer, and diminished refinery demand.

SOUTHWEST PENNSYLVANIA

In Center Township, Greene County, Pennsylvania, Carnegie Natural Gas Co. completed No. 2 J. H. Orndoff at 3,414 feet as a 25 bbl. well. Fifth sand pay was at 3,409-14 feet. This opens a new producing horizon in the district.

In the same township, the Natural Gas Co. of West Virginia found the Nineveh Thirty Foot sand dry in No. 4 Braddock and Cook. The hole was continued to 3,457 feet through the Fifth sand which was also dry.

In Wayne Township, Greene County, Peoples Natural Gas Co. deepened No. 2,185 on the Thomas L. Parks farm, to 3,200 feet, Bayard sand, and it is a gas wel good for 100,000 feet a day.

In Washington County, Carnegie Natural Gas Co. completed a test on the C. M. Guthrie farm in South Strabane Township at 2,020 feet as a gas well gauging 537,000 feet at 2,000-2,006 feet. In Cross Creek Township, Milliken and Pethtel completed a small gasser on the R. R. Cowden farm at 830 feet.

Greene County Drilling

In Center Township, Greene County, Carnegie Natural Gas Co. is underreaming at 2,160 feet in No. 3 J. W. Milliken and has material on the ground for No. 3 J. H. Orndoff. The Rutan Oil Co. it down 2,000 feet in No. 4 Charles Harvey. Charles Mung and others have reached 860 feet on the Jess L. Metz (Wier) farm.

In Morris Township, William Smith and others are shut down at 2,175 feet on the Phillip Fonner test, awaiting cable. In Washington Township, Carnegie Natural Gas Co. is moving in a rig for No. 2 Sadie A, Connor. The Equitable Gas Co. is drilling at 1,247 feet in the Pratt Yeager test. Charles Mong and others have the rig completed for No. 2 Jacob Johns.

In Springhill Township, Nelson H. Richard Co. is drilling at 3,397 feet in No. 1 Rossell Sammons. Taylor Oil and Gas Trust has started No. 5 John Taylor and is down 500 feet. South West Pennsylvania Gas Corp. is drilling at 1,200 feet on the Thomas Smith farm. In Aleppo Township Union Gasoline and Oil Corp. is down 2,945 feet in No. 5 T. M. Gallentine.

In Richhill Township, O. I. Dillie is drilling at 2,660 feet in No. 1 J. M. Phillips. J. L. Blair has spudded in and started drilling No. 10 W. J. Bryan. Smith McCracken is cementing the Asa Hughes test at 1,590 feet.

In Wayne Township, Manufacturers Light and Heat Co. is down 1,160 feet on the J. N. Johnson farm. The Equitable Gas Co. has reached 614 feet on the S. C. Brock farm. Eddy and Johnson have rig up for No. 2 E. Maple Heirs.

Washington County

In Amwell Township, Carnegie Natural Gas Co. is drilling at 1,906 feet in No. 4 N. B. Redd and is building rigs on the F. M. Closser and P. W. Reynolds farms. South Penn Oil Co. made a location for No. 3 Piedmont Coal Co.

In South Franklin Township, Carnegie Natural Gas Co. is drilling at 970 feet on the Alberta Iams farm. The Dunn Mar Oil and Gas Co. has reached 1,925 feet in No. 4 J. T. Baldwin.

In South Strabane Township, Penn Ohio Oil and Gas Co. is down 2,220 feet in No. 2 Porter Brothers. In North Strabane Township, Keystone Gas Co. is down 2,160 feet in the J. T. Beabout test. In Peters Township, R. M. Duden and others were drilling below 260 feet in No. 2 W. J. Johnston. In Union Township, Beedle and Clark reached 2,755 feet in No. 1 Martin Rankin with the Fifth sand at 2,550 feet and 35,000 feet of gas at 2,683 feet.

In East Finley Township, Parkinson, Plants and Co. has a rig up on the L. A. Phillips farm.

Deep Tests

In South Union Township, Fayette County, Potter Development Co., William E. Snee and others have reached 2,600 feet in No. 2 Summit Hotel on Chestnut Ridge. In North Union Township, Frank Fairman and others are shut down at 900 feet on the Louisa Vardell farm.

In Beaver County, John T. Galey and others are drilling at 2,000 feet on the James Tennis farm in South Beaver Township. Berea sand was at 684 feet with 8¼-inch casing run to 920 feet. The T. M. Phillips Gas and Oil Co. are down 1,250 feet on the James Smith farm same township.

In Allegheny County, the South Penn Oil and others are fishing in the test on the Christian Z. Schove farm in Hampton Township. The hole was cleaned out to the top of the second lost string of tools and the tools taken hold by the socket. After jarring several days, the hold was broken.

WEST VIRGINIA

In Calhoun County, West Virginia, Metz Farm Oil Co. completed No. 4 Peter Metz in Sheridan district at 1,897 feet, the Salt sand, and it is showning for 40 bbls. a day. In Sherman district, the Jackson River Oil Co. completed No. 2 Scotch McDonald in Injun sand at 2,188 feet and it is good for 5 bbls. a day.

In Jackson County, Mountain Iron and Supply Co. completed a No. 8 J. W. Kelley and others in the Washington district, in Salt sand at 1,712 feet. It is good for 4 bbls. a day.

In Ritchie County, C. A. Jarvis completed No. 1 Canada Heirs in Murphy district in the Second Salt sand at 1,980 feet, a 2-bbl. well, also good for 200,000 feet of gas. In Clay district, F. R. Ball and others completed a No. 4 Strickler, Drey and Scott in Squaw sand at 2,025 feet and it is showning for 2 bbls. a day. In Grant district, the Griffin Producing Co. No. 39 Ed Rich is a 1-bbl. well in Injun sand at 1,875 feet. J. W. Jonas completed No. 32 West Virginia Oil Co. in the gas sand at 500 feet and it is a very small pumper.

In Wetzel County, the Philadelphia Oil Co. completed a small pumper on the Louisa Carney farm in Church district in the Fourth sand, total depth 3,066 feet and it is good for 1½ bbls. a day.

Gas Wells

In Braxton County, Pittsburgh and West Virginia Gas Co. completed three wells. In Otter district, No. 7,605 on the W. C. Hawkins farm was bottomed at 2,365 feet with the Big Injun sand at 1,834-1,944 feet and 200,000 feet of gas at 1,870 feet. In Birch district, No. 7,594 Parkersburg Mill reached the Big Injun at 1,880 feet, with 72,000 feet of gas at 1,941 feet. In this district, No. 7,645 T. R. Stump farm is good for 300,000 feet of gas with a total depth of 1,685 feet and the Salt sand at 1,658 feet and the gas at 1,663-1,673 feet.

In Cabell County, R. H. Adkins, Trustee, completed No. 1 J. W. Stanley in Grant district as a gas well, total depth 2,089 feet. It gauged 212,000 feet of gas from the Berea at 2,043-65 feet.

In Fayette County, Godfrey L. Cabot, Inc., completed No. 10 Kanawha Gauley Coal Co. in Falls district at 2,520 feet. It gauged 304,000 feet of gas a day.

In Gilmer County, the Pittsburgh and West Virginia Gas Co. completed No. 7,639 H. H. Frymyer in Center district at 1,651 feet. The Salt sand was at 1,628 feet with 1,024,000 feet of gas a day at 1,634-1,651 feet. In Glenville Independent Massey and Jarvis completed an A. W. Moore test at 1,640 feet with the Salt sand at 1,050-1,165 feet and 600,000 feet of gas at 1,110-1,115 feet. In this district, Everett Hughes drilled a test on the C. L. Griffith farm through the Big Injun to 1,635 feet and it was dry in all sands. The Big Injun was at 1,558-1,627 feet.

In Lincoln County, Summerson and Swanson completed No. 2 J. A. Thompson No. 2 in Sheridan district at 3,180 feet. Brown Shale at 2,760-3,180 feet with 1,770,120 feet of gas after a shot. In Carroll district, the Blue Ridge Gas Co. completed a W. E. Madden test at 3,281 feet with only 21,000 feet of gas showing from the Brown shale.

In Pleasants County, W. C. Patterson drilled a test on the J. W. Hines farm in Washington district through the Maxton sand to 1,529 feet and it was dry but is

(Continued on Page 89)

Kansas Developments

By
DAL DALRYMPLE

WILDCAT SOUTH OF WICHITA OPENS WILCOX SAND SECTOR

A new Wilcox sand producing area 5 miles south of Wichita, Kans., has been opened at Max Steinbuchel, C. R. Sims and others No. 1 Martin, SE SE NW section 18-28-1e. It produced 204 bbls. of oil in a seven-hour pumping test from Wilcox sand topped at 3,491 feet and penetrated 6 inches. The new area is about a mile northwest of the Robbins pool, where production is obtained from Chat.

The opening of another pool in Stafford County appeared imminent at Fred Rust and others No. 1 Drach, NE NE SW section 12-22-13w, wildcat 3 miles northwest of Hudson. The hole began filling with oil after the crew drilled out cement plugs in 7-inch casing set at 3,694 feet. Siliceous lime was topped at 3,693 feet, total depth 3,698 feet. The wildcat is on a cross trend between the Gates and Richardson pools.

The newest Barton County discovery, National Refining Co., James A. Brouk and J. F. Duwe No. 1 Gory, NW NW SW section 10-17-13w, made potential of 255 bbls. of oil daily, naturally. Top of Siliceous lime was 3,342 feet and it was bottomed at 3,351 feet. Gravity of the oil was reported to be 37.6 degrees. The new area is 2½ miles south of the Ainsworth pool.

Two other Barton County wildcats were showing as new pool openers. Shell Petroleum Corp. No. 1 Ehrlich, NE NW NW section 18-16-13w, which topped Siliceous lime at 3,357 feet, showing saturation in a core to 3,362 feet. It is about midway between the McClanahan pool and the new Peterman area in section 13-16-14w.

Palmer, McGhee & McKee No. 1 Polzin, NW NW SE section 4-16-12w, 1½ miles north of the Beaver pool, was cleaning out after oil rose 2,800 feet in the hole in 36 hours. Gorham sand was topped at 3,311 feet, total depth 3,315½ feet.

Anticipate Russell Strike

A new producing area for Russell County was expected at Parks & Murfin No. 1 Opdycke, SW cor. section 20-14-13w, 1 mile north of the Hall pool and 5 miles southeast of Russell. Operators were preparing to drill plugs in 5-inch casing set at 3,180 feet for a production test of Siliceous lime.

The newest Conglomerate discovery well in Rice County, Gerbrand-Pulse No. 1 Wellman, SW cor. section 22-21-9w, 5 miles west of Sterling, had gas volume of 22,400,000 feet on first gauge, it was reported. Rock pressure was 110 pounds. Production is from Conglomerate pay at 3,317-27 feet.

On the east side of the state, Hazen Sears of Paola and associates have completed an estimated 100-bbl. well at their No. 2 Geddis, NW section 4-23-21, 2 miles east of Kincaid in Anderson County. The well, bottomed at 774 feet, was shot with 90 quarts, cleaned itself and sprayed oil for some distance around the rig, the fluid shooting to the top of the drilling mast. It is a southeast offset to a well on the same lease that produced 62 bbls. of oil in a seven-hour test when brought in last spring and which still is producing at a good rate. Both wells are on a southeastern trend of the Kincaid area. Production is from Bartlesville sand, averaging 31-foot thickness in the two wells.

Work was started at an interesting wildcat test in northwestern Rooks County at B. M. Gessel, Forest Cave & Texo Trading Co. No. 1 Brobst, SW SW NE section 18-6s-19w. It is near the center of a 3,000-acre block of leases.

Daily allowable production in November was set at 180,215 bbls. of oil by the Kansas Corporation Commission, following a statewide market demand hearing in Wichita. The quota recommended by the Bureau of Mines was 189,700 bbls.

Wildcat Completions

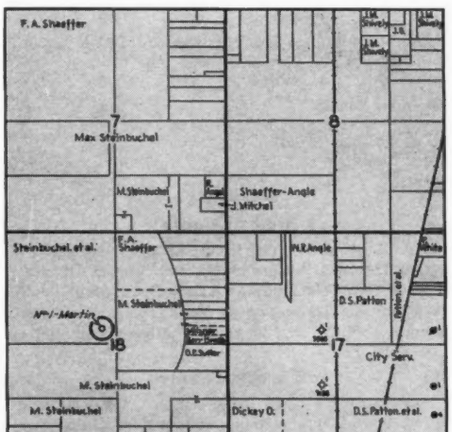
One of 10 wildcats completed in Kansas the past week opened a new producing area. It was Bradley Brothers No. 1 Barnholt, SW SW SE section 30-20-5w, southwestern McPherson County. It found Kansas City lime at 2,720 feet, topped Chat, the producing horizon, at 3,292 feet and was bottomed at 3,335 feet. After acidizing, it pumped 107 bbls. of oil and 2 per cent water in 12 hours; was shot, pumped 131 bbls. of oil in 24 hours and was completed.

F. E. Fullerton & Son No. 1 Moray, NE SE SW section 27-10-12w, Osborne County, was reported abandoned at 500 feet, total depth.

H. C. Eisenhour and others No. 1 Krouse, SE SE NW section 18-13-12w, Russell County, spudded and was abandoned.

Trapp Drilling Co. and Ramsey No. 1 Polcyn, NE NE SE section 34-14-15w, Russell County, topped Siliceous lime at 3,326 feet, had a hole full of water at 3,355-61 feet, total depth, plugged back to 3,298 feet, but was dry and abandoned.

Wamhoff and others No. 1 Nuse, SE NE SW section 18-18-4w, McPherson County, was temporarily abandoned at 1,850 feet.



Mid-Continent Map Co., Wichita

Max Steinbuchel and associates have opened a Wilcox sand pool south of Wichita, in section 18-28-1e

Central Commercial Oil Co. No. 1 Locker, SW NE SW section 12-14-22w, Trego County, found Siliceous lime at 4,173-4,692 feet, Granite Wash 4,707 feet, Granite 4,731 feet, total depth, and was dry and abandoned.

Torrey & Feaster and others No. 1 Allen, NW NW SE section 34-22-12w, topped cherty Conglomerate at 3,560 feet and was dry and abandoned at 3,829 feet, total depth. It is in Stafford County.

Hannum Drilling Co. and others No. 1 Thole, NE cor. section 27-23-12w, Stafford County, had Siliceous lime at 3,863 feet, total depth 3,882 feet, and was dry and abandoned.

S. Van Devanter and others No. 1 Dove, NE SE SW section 12-28-11, Greenwood County, was dry and abandoned after topping Kansas City lime at 1,138 feet and drilling to 1,300 feet, total depth.

Helmerich & Payne and others No. 1 Blunk Estate, C SE section 18-34-13w, Barber County, had Mississippi lime at 4,735-4,900 feet, Misener sand, and a slight showing of oil at 5,105 feet, Viola lime 5,112 feet, Simpson zone 5,245 feet, total depth 5,045 feet and was dry and abandoned.

Ellis County

Completions of the week included eight producers in Ellis County. Gulf Oil Corp. No. 1 Pearl, NE NE SE section 13-11-17w, topped Siliceous lime at 3,346 feet, was bottomed at 3,357 feet, acidized and made potential of 1,604 bbls. of oil.

Cities Service Oil Co. No. 1 Hall A, SW cor. section 14-11-17w, found Siliceous lime at 3,420 feet, total depth 2,440 feet, was acidized and made potential of 1,174 bbls. of oil.

Lebow and associates No. 2 Richmond, SE SW SE section 15-11-17w, Bemis field, topped Siliceous lime at 3,424 feet, had pay at 3,435 feet, total depth 3,441 feet, pumped 315 bbls. of oil in 24 hours, was acidized and made potential of 2,099 bbls.

Ryan Consolidated Co. No. 6 Bemis B, NE SE NW section 22-11-17w, made potential of 2,873 bbls. of oil from Siliceous lime at 3,437 feet, total depth 3,447 feet.

Deep Rock Oil Corp. No. 22 Baumer, NW SW NE section 27-11-17w, found Siliceous lime at 3,497 feet, was bottomed at 3,507 feet and made potential of 3,341 bbls.

Same company's No. 23 Baumer, SE NE NE section 27-11-17w, had Siliceous lime at 3,382 feet, total depth 3,396 feet, and made potential of 3,233 bbls.

L. H. Wentz No. 7 Bemis, SW NE NW section 28-11-17w, had Siliceous lime at 3,428-33 feet, total depth, and made potential of 1,643 bbls.

Alva Billings No. 1 Oswald, NE SE SW section 11-12-16w, topped Kansas City lime at 3,072 feet, had pay at 3,099-3,104 feet, total depth 3,105 feet, swabbed 36 bbls. of oil in four hours, was acidized, pumped 228 bbls. of oil in four hours and made potential of 1,367 bbls.

Lario Oil & Gas Co. No. 8 Marshall, SW SW SE section 36-11-18w, and Republic Natural Gas Co. No. 1 Joy, NE NE NW section 14-12-18w, were abandoned locations.

New work in Ellis County: Stanolind Oil & Gas Co. No. 1 Austin, NE cor. section 36-12-16w, drilled to 3,270 feet and plugged back to 3,230 feet; Cities Service Oil Co. No. 2 Hall B, SW NW NW section 26-11-17w, location; Magnolia Petroleum Co. No. 7 Johansen, SE NW SE section 22-11-17w, building rig; same company's No. 6 Johansen, NW SE NE section 22-11-17w, building rig; Lario Oil & Gas Co. No. 3 Cress, SW NE NE section 13-11-17w, location.

Russell County

The largest producer completed in Russell County was R. H. Shields and others No. 3 Letsch, NW NE SE section 27-14-13w. It has best Kansas City lime pay at 2,860-91 feet, total depth, and after acid treatment pumped 364 bbls. of oil in four hours and made potential of 2,997 bbls.

Saco Oil Co. and others No. 1 Shaffer, SE NE NW section 31-13-12w, had Siliceous lime at 3,413-20 feet, total depth, and was dry and abandoned.

Phillips Petroleum Co. No. 4 Carroll, SE NE SE section 18-14-14w, topped Kansas City lime at 3,020 feet, total depth 3,070 feet, was acidized and pumped 405 bbls. of oil in four hours, making potential of 2,350 bbls.

Darby Petroleum Corp. No. 5 Dumler B, SE SE NW section 11-14-15w, topped Kansas City lime at 3,023 feet, had pay at 3,026 feet and 3,066-73 feet, total depth. After

acidizing, it pumped 393 bbls. of oil in four hours and made potential of 1,620 bbls. of oil.

Transwestern Oil Co. No. 10 William Polcyn, NW NE SW section 11-14-15w, topped Kansas City lime at 3,023 feet, total depth 3,063½ feet, was acidized, pumped 187 bbls. of oil and 184 bbls. of water in four hours, getting potential rating of 1,105 bbls. of oil.

Skelly Oil Co. No. 8 Neidens, SE SW SE section 32-15-13w, found Siliceous lime at 3,304 feet, total depth 3,314 feet, was acidized, pumped 182 bbls. of oil in four hours and made potential of 976 bbls. of oil.

Gulf Oil Corp. No. 10 Michaelis, SW SE SW section 32-15-13w, was a temporarily abandoned location.

First reports of new activity in Russell County: Darby Petroleum Co. No. 6 Michaelis, SE SW SE section 36-15-14w, location; Cities Service Oil Co. No. 3 Korll D, SW SE SE section 24-15-14w, moving in material; W. I. Southern, Inc. No. 14 Boomhower A, NW NE NE section 30-15-13w, rig; Jones & Shelbourne No. 1 Short, NE cor. section 12-15-12w, location; National Refining Co. No. 4 Reinhardt C, SE SW SE section 25-14-15w, location; Stanolind Oil & Gas Co. No. 1 Mills, NE NE SW section 10-14-15w, moving in rotary tools; same company's No. 16 Gorham, SE NW NW section 9-14-15w, cellar; Stanolind Oil & Gas Co. No. 19 Mermis, NW SW NE section 5-14-15w, cellar; Cities Service Oil Co. No. 2 Rogg, NW SE NE section 27-14-13w, rig.

Barton County

One completion a day was the average for Barton County the past week. Polk & Fortson No. 3 Meyers, SE NW SE section 16-16-12w, found Conglomerate at 3,332 feet, total depth 3,349 feet, plugged back to 3,346 feet, pumped 119 bbls. of oil in four hours and made potential of 603 bbls.

Carter Oil Co. No. 1 Hogan, NE SW NW section 11-17-11w, pumped 366 bbls. of oil in six hours from Siliceous lime topped at 3,326 feet, total depth 3,336 feet, and made potential of 1,890 bbls. of oil.

Stanolind Oil & Gas Co. No. 1 Knop B, NW NW SE section 32-19-11w, was dry and abandoned at 3,387 feet, total depth.

Same company's No. 3 Burmeister, SE SE NE section 35-19-11w, had Siliceous lime at 3,286 feet, total depth 3,292 feet, swabbed 13 bbls. of oil an hour, was acidized, pumped 165 bbls. of oil in four hours and made potential of 1,008 bbls.

Stanolind Oil & Gas Co. No. 4 Panning, NW SW SE section 2-20-11w, found Siliceous lime at 3,275 feet, was bottomed at 3,281 feet, acidized and made potential of 1,801 bbls. of oil.

Lario Oil & Gas Co. and Atlantic Refining Co. No. 2 Zahorsky B, SE SE NE section 23-20-11w, made potential of 1,969 bbls. of oil from Siliceous lime topped at 3,258 feet, total depth 3,263 feet.

Indian Territory Illuminating Oil Co. No. 4 Schrepel A, NE cor. section 26-20-11w, had Siliceous lime at 3,257 feet, total depth 3,273 feet, flowed 349 bbls. of oil in nine hours and made potential of 2,198 bbls.

Operations reported for the first time in Barton County: Magnolia Petroleum Co. No. 16 Roetzel, NW NW NE section 25-20-11w, location; Stanolind Oil & Gas Co. No. 1 Hagen A, SE cor. section 21-20-11w, rig; same company's No. 9 F. Panning, NW cor. section 11-20-11w, rig; same company's No. 8 F. Panning, NE NE SE section 3-20-11w, location; Stanolind Oil & Gas Co. No. 1 Isern, NE NE SW section 3-20-11w, rig; same company's No. 2 Schmidt, NE NE SE section 35-19-11w, rigging up rotary; Shell Petroleum Corp. No. 1 Maier, NE NE NW section 2-16-14w, moving in material; Cities Service Oil Co. No. 4 Bitter, NE NW NW section 5-16-13w, rig.

Rice County

Sinclair Prairie Oil Co. No. 4 Bolton, SW cor. section 31-18-7w, Rice County, had Siliceous lime at 3,215-32 feet, total depth, pumped 201 bbls. of oil in four hours and made potential of 1,077 bbls.

Carter Oil Co. No. 6 Risse, C N half S half SW section 33-19-10w, topped Siliceous lime at 3,288 feet, total depth 3,298 feet, pumped 109 bbls. of oil in three hours, was acidized, pumped 398 bbls. of oil in six hours and earned potential of 1,515 bbls.

Continental Oil Co. No. 3 Groth, SE SE SW section 32-20-7w, found Conglomerate at 3,317 feet, was bottomed at 3,342 feet, and pumped and flowed 1,452 bbls. of oil in 24 hours.

H. B. Garden No. 5 Oden, NW NE NW section 5-21-7w, in the Oden sector of the Saxman area, topped Conglomerate at 3,324 feet, total depth 3,330 feet, flowed 1,659 bbls. of oil in four hours, flowed 896 bbls. in the next four hours and made potential of 5,379 bbls.

L. E. Douglass Oil & Gas Co. and others No. 15 Theede, NE SE SW section 9-21-7w, topped Conglomerate at 3,357 feet, total depth 3,392 feet, and made potential of 1,238 bbls.

Two new operations in Rice County were reported: Stanolind Oil & Gas Co. No. 7 Hathaway, NE SE NW SW section 33-19-10w, was rigging up rotary; Texas Co. No. 10 Kielle, SE NE SW section 34-19-10w, was drilling below 1,400 feet.

McPherson County

E. B. Shawver and Shell Petroleum Co. No. 4 Lively, NE SW NW section 21-19-1w, McPherson County, found Wilcox sand at 3,402 feet, was bottomed at 3,420 feet and pumped 362 bbls. of oil in 24 hours.

Continental Oil Co. No. 2 Chaney, SE SW NE section 20-21-1w, was a location.

Estimated Daily Production

Estimated daily production of Kansas for the week ending October 30 and for the preceding week was as follows:

	Barrels	
	Oct. 30	Oct. 23
Oxford City	1,400	1,325
Burrton	13,350	13,650
Ritz-Canton	4,875	4,775
Graber	3,025	2,725
Hollow-Nikkel	2,375	2,475
Lerado	2,175	2,050
Voshell	2,275	2,325
Wellington	2,825	2,925
Ellsworth County:		
Lorraine	3,250	3,600
Other pools	985	1,160
Rice-Barton counties:		
Bloomer	3,325	3,950
Chase	6,200	8,025
Geneseo	2,475	2,275
Raymond	1,150	1,325
Silica	18,225	17,100
Keesling	1,025	925
Hauschild	2,000	1,575
Miscellaneous Rice	9,120	8,520
Miscellaneous Barton	7,065	6,590
Russell County:		
Fairport	2,150	2,000
Gorham	2,030	1,750
Russell	2,125	2,070
Sullivan	6,845	7,995
Trapp	12,420	14,075
Miscellaneous Russell	9,490	7,660
Sedgwick County:		
Valley Center	1,005	1,020
Miscellaneous	2,730	2,535
Ellis County:		
Bemis	5,075	5,325
Miscellaneous	2,875	3,365
Kingman County	580	470
Stafford County	2,875	3,495
Greenwood County	10,000	9,900
Butler County	16,120	16,100
Other fields	22,160	20,820
Total Kansas	185,600	185,875

Rooks County

Atlantic Refining Co. No. 1 McClay, NW NW SW section 12-9-17w, Rooks County, had Kansas City lime at 3,140 feet, found pay at 3,241-42 feet, total depth, swabbed 200 bbls. of oil in 24 hours, was acidized, pumped 257 bbls. in four hours and made potential of 1,321 bbls.

Harvey County

Sunray Oil Co. No. 2 Hege, NW NW SW section 13-22-2w, Harvey County, found Hunton lime at 3,269 feet, total depth 3,305 feet, was treated with acid and made potential of 756 bbls. of oil.

Olson Oil Co. and Shell Petroleum Corp. No. 4 Schrag, Jr., SW SE SW section 30-23-3w, Burrton area, topped Chat at 2,274 feet, total depth 3,360 feet, was acidized and pumped and flowed 1,065 bbls. of oil in 24 hours.

Cities Service Oil Co. and others No. 2 Haury B, SW SE SW section 1-23-4w, found Chat at 3,266 feet, was bottomed at 3,387 feet, flowed 8 bbls. of oil daily, was acidized, and made potential of 298 bbls. of oil, with 15 per cent water.

Shaffer and others No. 2 Detweiler, NW SW NE section 2-23-2w, was a cellar.

Stafford County

Stanolind Oil & Gas Co. No. 1 Krentzel, NW cor. section 34-21-12w, Stafford County, topped Kansas City lime at 3,276 feet, total depth 3,409 feet, swabbed 30 bbls. of oil an hour, was treated with acid, flowed 449 bbls. in four hours and made potential of 1,827 bbls. of 34.9-gravity oil.

Two new operations in Stafford County were reported: Torry, Feaster and others No. 1 McConnaughay, NE SE NW section 8-24-13w, was a rig; Stanolind Oil & Gas Co. and others No. 4 Heyen, SE NE NW section 31-22-11w, was a rig.

Reno County

Shaffer and associates No. 1 Hill, SW SE SE section 18-24-4w, Reno County, found Chat at 3,228 feet, was bottomed at 3,385 feet and was completed as a 15-bbl. minimum well.

Magnolia Petroleum Co. No. 3 Thorne, NE SE NE section 17-26-4w, set 13-inch casing at 182 feet and was waiting.

Marion County

R. E. Youker No. 1 Martin, SE cor. section 3-17-4e, Lost Springs area, Marion County, topped Chat at 2,309 feet, total depth 2,371 feet, and was dry and abandoned.

Butler County

Phillips Petroleum Co. No. 18 Scully, NW SW SE section 17-23-4e, Elbing area, Butler County, topped Kansas City lime at 1,940 feet, total depth 2,080 feet, was acidized, pumped 68 bbls. of oil in four hours, pumped 16 bbls. in the next four hours, and made potential of 96 bbls. of oil with 69 bbls. of water.

Cities Service Oil Co. No. 29 Lathrop, SW SW NW section 17-23-4e, had Kansas City lime at 1,968 feet, total depth 2,112 feet, plugged back to 2,886 feet, was acidized, pumped 70 bbls. of oil in eight hours and made potential of 180 bbls.

Coronado Oil Co. No. 1 Dunne, NE NE SE section 22-26-7e, was drilling below 1,250 feet.

Greenwood County

D. M. Rhodes & Co. No. 8 Browning, SW SW NW section 18-22-10, Greenwood County, had a hole full of water at 2,665-75 feet, total depth, and was abandoned.

Katz Oil Co. No. 2 Life, NW NW NE section 13-26-9, found Mississippi lime at 2,084 feet, total depth 2,132 feet, and pumped 30 bbls. of oil in 24 hours.

J. Nichols No. 1 Central Life, SE SE SW section 35-25-12, was a machine.

Woodson County

Alexander & Bell No. 3 Haas, NE NW SE section 22-23-14, Woodson County, found Mississippi lime dry at 1,624 feet and was abandoned at 1,665 feet, total depth.

Frank Young No. 3 Stevenson, NW SW NE section 5-24-14, had Mississippi lime pay at 1,710-22 feet, total depth, was acidized, swabbed 120 bbls. of oil in 36 hours and was estimated good for 50 bbls. of oil daily on pump.

C. L. Sheedy and associates No. 6 Tipton, NE SE NW section 28-25-14, had Bartlesville sand at 1,427-67 feet, total depth 1,470 feet, was shot and estimated good for 50 bbls. of oil daily on the pump.

New work in Woodson County: B. & B. Oil Co. No. 3 Corkery, NE NW NW section 29-25-14, location; C. Reeser and others No. 1 Weide, NW NW SE section 18-25-14, machine; Mossman & Ashblock No. 1 Dreyer, SE SW SE section 25-23-13, machine.

Sedgwick County

Magnolia Petroleum Co. No. 1 Rimel, NW NW SW section 20-27-2e, Sedgwick County, had Misener sand at 3,256-60 feet, total depth, pumped 16 bbls. of oil and 1 bbl. of water, but water later drowned out oil and it was abandoned.

Cowley County

Lloyd, Frost & Study and others No. 1-K Wilson, SE SE SW section 33-31-5, had Layton sand at 2,477 feet, total depth 2,604 feet, pumped 7 bbls. of oil and much water in 18 hours and was abandoned.

Murta & Wilson and others No. 2 Turner, SE NE NW section 30-32-6, found Layton sand at 2,237 feet, was bottomed at 2,263 feet, was shot, swabbed 120 bbls. of oil in the first four hours, 60 bbls. in the next four hours and made potential of 360 bbls. of oil.

Chautauqua County

W. D. Dunn and others No. 1 Malone, SE SW NE section 18-32-10, Chautauqua County, was an abandoned location.

Grant County

R. K. Wilson No. 1-12 Sledd Farm Corp., C SE section 12-28-38w, Grant County, was bottomed at 2,800 feet, plugged back to 2,640 feet, was acidized and produced 5,500,000 feet of gas. Top of pay was 2,372 feet.

New work in Grant County: United Production Co. No. 1 Taylor, NE NE NE SW section 2-30-35w, location; Eastern Pipe Line Co. No. 1 Howell, C section 16-29-36w, location; United Production Co. No. 1 Cummings, C section 25-29-35w, location.

Various New Activity

In Elk County, Bell Oil & Gas Co. No. 1 Ferguson, E half NW NW section 23-30-8, was a machine.

(Continued on Page 73)

Oklahoma Operations

By DAL DALRYMPLE

LINCOLN OUTPOST SHOWING OIL; GAS IN HUGHES WILDCAT

Two Oklahoma wildcats gave indications of opening producing areas the past week, one in Hughes County and one in Lincoln County. Other features of the week included completions of a wildcat producer between the two Lucien pools of Noble County, and a possible extension of the Cement field of Caddo County.

Phillips Petroleum Co. No. 1 Beeker, NE NW SW section 8-5-10, southwest of Calvin in Hughes County, was preparing to deepen from 4,425 feet in Cromwell sand, after it had produced about 18,000,000 feet of gas with a spray of oil. Top of sand was 4,398½ feet, with pipe set at 4,414 feet. The crew was to core ahead in search of the oil sand believed to be beneath the gas zone.

C. L. Carlock and others No. 1 Young, C N half NW NW section 23-15-5, wildcat 4 miles north of Davenport in Lincoln County, found good shows of oil in Skinner sand topped at 3,691 feet and was coring ahead below 3,695 feet. However, operators may set pipe and test the showing. The outpost is reported checking 30 feet higher than other wells in the area.

Ray Stephens, Inc., No. 1 Thompson, SW SE NW section 27-6n-10w, may extend producing limits of the Cement field, Caddo County, one-half mile west. It had good shows of oil in sand at 4,325-65 feet, total depth, and set 9-inch casing at 4,325 feet. It is west of the operator's big gas well on the H. W. Griffin lease in section 27-6-10w.

R. H. Grove and associates have an estimated 100-bbl. well at No. 1 Flesher, SW section 2-16-17e, Wagoner County, about 7 miles northeast of Coweta. It was bottomed at 642 feet, 9 feet in Pipkin sand. The oil is 38 gravity.

Gulf Oil Corp. No. 1 Johnson, C SW NW section 27-2s-3w, second deep test in the old Fox field of Carter County, was coring below 7,605 feet, after finding oil showings from 7,575 feet. It was reported running 210 feet higher than the Carter Oil Co. and others No. 1 Williams, section 27-25-3w, which blew in at 8,107 feet nearly two years ago and still is producing 500 bbls. of oil daily.

The Oklahoma Corporation Commission has approved the application of E. H. Moore, Inc., for the reclassification of the Fitts field of Pontotoc County, effective November 1. As a result, the field will be operated hereafter on a lease unit basis rather than a well unit basis.

Petition of the Ohio Oil Co. to reclassify the Edmond pool of Oklahoma on the lease basis also was approved.

Oklahoma allowable production for November was set at 575,000 bbls. daily by the Corporation Commission. That is a reduction of 25,000 bbls. daily from the October allowable and 23,000 bbls. below the Bureau of Mines market demand estimate.

Wildcat Completions

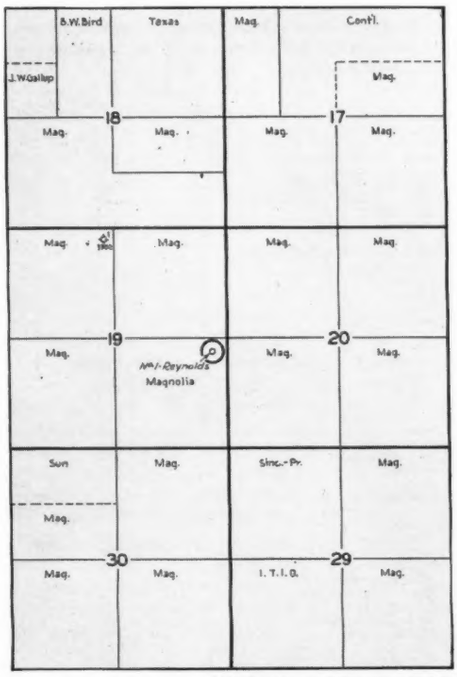
A new producing area between the Lucien and North Lucien pools of Noble County was opened at Seaboard Western Oil Co. and others No. 1 Guthrie, NW NW NE section 6-20-2w. It found first Wilcox sand at 5,425 feet, total depth 5,454 feet, was shot, flowed 312 bbls. of oil in the first 24 hours, 245 bbls. in the next 24 hours and was given potential rating of 165 bbls. Top of Viola lime was 5,308 feet; Simpson Dense 5,355 feet; Dolomite 5,380 feet.

Continental Oil Co. No. 1 Ferguson, SW SE NE section 33-8-20, Haskell County wildcat, gauged 1,300,000 feet of gas at 7,003 feet, total depth, but was dry of oil and abandoned. Hartshorne series was topped at 833 feet; Wapanucka 5,597 feet, Union Valley 5,938 feet, Cromwell sand 5,974 feet, Mississippi Caney 6,250 feet, Mayes 6,550 feet, Woodford 6,645 feet, Hunton 6,735 feet, Sylvan 6,745 feet, Viola 6,795 feet, Wilcox sand 6,882 feet.

E. H. Moore No. 1 Buck, NW SW SW section 21-8-10, Hughes County outpost, found Viola lime at 4,195 feet, Simpson Dense 4,235 feet, Dolomité 4,255 feet, first Wilcox sand 4,285 feet, second Wilcox sand 4,363 feet, total depth 4,456 feet, produced 20 bailers of salt water in eight hours and was abandoned.

Ardie Oil Co. No. 1 State, NE NE SE section 16-14-4, Lincoln County wildcat, found Wilcox sand at 4,968 feet, was bottomed at 5,035 feet, had 3,500 feet of fluid in the hole, mostly water, and was abandoned.

Sinclair Prairie Oil Co. and others No. 1 Lancaster Trust, C SW NE section 10-1s-2e, wildcat in Murray County, was abandoned in Simpson sand at 4,404 feet, total depth, with 186 feet of drill pipe, packer and tester left in the hole. Sand was topped at 4,093 feet and numerous shows of black oil were found in cores to total depth, where drill pipe stuck. This test was started by Power Oil Co. in August, 1936.



Mid-Continent Map Co., Tulsa

Magnolia Petroleum Co. has started work at a wildcat in section 19-25-5w, Grant County

Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1-A Westheimer & Daube, SW SE SW section 27-6s-2e, averaged 36 bbls. of oil on swabbing test and was completed as a pumper after plugging back to 2,970 feet from 7,376 feet, total depth. Production was from Viola lime at 2,427-2,970 feet. It made numerous flows and at one time, after acid treatment, swabbed and flowed 959 bbls. of oil in 24 hours. It was shut down for a long while with hole standing open, but operators recently went in and started swabbing tests to complete. It opens the second producing area for Love County.

Pontotoc County

Crusaders Petroleum, Inc. No. 3 Norris, NE NW NE section 25-2n-6, Fitts field, Pontotoc County, topped Hunton lime at 3,730 feet, was bottomed at 4,154 feet, and made potential of 974 bbls. of oil after shooting and acidizing.

Magnolia Petroleum Co. No. 5 Morin, SW NW SE section 20-2n-7, found Hunton lime at 3,795 feet, Sylvan shale 4,092 feet, total depth 4,097 feet, was acidized, flowed 170 bbls. of oil in four hours and made potential of 819 bbls.

R. W. Simpson and Crusaders Petroleum, Inc. No. 6-B Woolley, NW NW SW section 27-2n-7, topped Cromwell sand at 2,379 feet, total depth 2,380 feet, and flowed and swabbed 150 bbls. of oil in 24 hours.

Frank Newson and associates No. 2 Walker, NW NW SW section 11-4n-6, Ada district, found Boggy sand at 1,157 feet, total depth 1,183 feet, was shot, pumped 102 bbls. of oil in 29 hours and was completed as a 45-bbl. pumper.

Carter Oil Co. No. 2 Brown, NE SE SE section 25-2n-6, an old well, was plugged back from 4,180 feet to 3,700 feet, acidized and shot, and recompleted for potential of 1,069 bbls. of oil.

New work in Pontotoc County: Continental Oil Co. No. 1 Prettyjohn, C W half SW SW section 1-1n-7, was a location; Mid-Continent Petroleum Corp. No. 11 Statler, NE SW SW section 2-1n-7, was a location; Magnolia Petroleum Co. No. 5 Norris, SE NE NE section 21-2-7, location; Sinclair Prairie Oil Co. No. 3 McCarty, NW NE NE section 22-2-7, an old well, plugging back; Samedan Oil Co. No. 1-B Bates, NW SE NE section 27-2-7, rigging up rotary; Continental Oil Co. No. 1 Thompson, C S half NW SW section 35-2-7, digging cellar; McCollum & Forbes No. 3 Layne, SW NE NW section 30-5-5, building rig.

Seminole County

Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 3 Ellis, NW NE NE section 2-10-5, North Earlsboro pool, Seminole County, found Wilcox sand at 4,635 feet, total depth 4,648 feet, swabbed 279 bbls. of oil in seven hours and was completed for an allowable of 100 bbls. daily.

Manahan Oil Co. and others No. 1 Scroggins, NE NW SE section 22-6-6, topped Boggy sand at 2,328 feet, total depth 2,335 feet, was shot and flowed 395 bbls. of oil through casing in 12 hours. Later, it flowed 230 bbls. of 32.6-gravity oil through tubing choke, with 6,000,000 feet of gas.

Paul Traugh No. 1-A Williams, NE SE NE section 22-6-6, found Boggy sand at 2,340 feet, was bottomed 2,350 feet, swabbed 75 bbls. of oil in 24 hours, was shot and swabbed 170 bbls. in 24 hours.

J. F. Smith No. 1 Norvell, NW SW NE section 32-7-6, flowed and swabbed 200 bbls. of oil in 12 hours, was shot, and flowed 358 bbls. of oil through casing in 24 hours. It had Boggy sand at 2,950-2,999 feet.

Continental Oil Co. and Sinclair Prairie Oil Co. No. 3 Perry, SW NE SW section 18-9-7, an old well, was plugged back from 4,224 feet to 4,038 feet, acidized and pumped 160 bbls. of oil in 24 hours.

First reports of new work in Seminole County: Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 2 Davis, SE NE NE section 35-10-7, rigging up rotary; W. B. Osborn and others No. 1-A Harris, NW cor. section 11-6-5, wildcat, location; Manahan Oil Co. and E. H. Moore No. 2 Scroggins, NW NW SE section 22-6-6, drilling at 711 feet; Paul Traugh No. 4 Scroggins, SE NW SE section 22-6-6, rig and moving in tools; Texas Co. No. 4 Wright, SE NE NE section 32-7-6, location; J. F. Smith No. 3 Norvell, NE SE NE section 32-7-6, location.

Logan County

Two good producers were completed by Champlin Refining Co. on its Pfeiffer lease in the Logan County sector of the Lucien field. The No. 8 Pfeiffer, NE SE NW section 4-19-2w, found first Wilcox sand at 4,905 feet, second Wilcox sand 4,978 feet, total depth 5,100

feet, flowed 1,311 bbls. of oil in 23 hours, and later made potential of 1,291 bbls., flowing by heads.

The No. 9 Pfeiffer, SE NW NW section 4-19-2w, found second Wilcox sand at 4,895 feet, total depth 5,048 feet, flowed 1,441 bbls. of oil in 12 hours and made potential of 2,709 bbls.

Noble County

Another large producer was completed in the Billings pool of Noble County at Tide Water Associated Oil Co. No. 3 Folke, NW NE NE section 28-23-2w. Wilcox sand was found at 4,331 feet, total depth 4,343 feet, and it flowed 858 bbls. of oil in six hours and earned potential rating of 3,424 bbls.

Oklahoma County

Travis Petroleum Co. No. 1 Neff, C N half NE NE section 35-12-3w, Oklahoma City pool, Oklahoma County, was completed at 6,405 feet, total depth, and flowed 500 bbls. of oil on gas lift in 24 hours.

Garvin County

Cox-Hamon No. 2 Perry, SW SE SW section 32-1n-3w, Tussy pool, Garvin County, had pay sand at 3,165-3,200 feet, was bottomed at 3,345 feet, pumped 90 bbls. of oil in the first 24 hours, 70 bbls. in the next 24 hours and was completed.

Muskogee County

Butler & Carney No. 9 James, NW SE SE section 18-14-17, Muskogee County, was dry and abandoned at 1,432 feet, total depth.

L. C. Butler No. 12 James, NE SE SE section 18-14-17, topped Misener sand at 1,920 feet, had a hole full of water at 1,925 feet and was abandoned.

New work in Muskogee County: Claude W. Garrett No. 1 Skleiman, NE NE SW section 13-13-15, rigging up standard tools; P. Atkins No. 2 Anicker, NW SE SE section 14-14-16, rigging up machine; Arthur Oil Co. No. 2 Bintz heirs, C NW SE section 18-14-18, shut down for casing at 1,020 feet; F. Wagester No. 1 Dodson, SE SW SE section 6-14-19, shut down at 840 feet.

Lincoln County

Sun Oil Co. No. 4 Aranwine, SW SW SE section 35-15-2e, North Wellston pool, Seminole County, found first Wilcox sand at 5,064 feet, was bottomed at 5,083 feet, and made potential of 430 bbls. of oil after acidizing.

Amerada Petroleum Co. No. 1 Lynde, NW SW NE section 15-13-6, Laffoon area, swabbed 189 bbls. of oil in 13 hours after a shot. Top of first Wilcox sand was 4,243 feet, second Wilcox sand 4,269 feet, total depth 4,325 feet.

Pottawatomie County

Magnolia Petroleum Co. No. 4 Jones B, SW NE NE section 18-7-4, St. Louis area, Pottawatomie County, topped Hunton lime at 3,777 feet, total depth 3,940 feet, swabbed 39 bbls. of oil in 24 hours, was acidized and pumped 75 bbls. of oil in 24 hours.

Hughes County

Amerada Petroleum Corp. and others No. 3 Stewart, SW SW NW section 31-9-9, Hughes County, found Misener sand at 4,004 feet, total depth 4,010 feet, flowed 474 bbls. of oil through choke in 16 hours and was completed.

Beaver Oil Co. No. 1 well, SW NW SW section 5-6-8, was a location.

Okfuskee County

Alexander No. 2 Grimes & O'Neil, SE SE NE NE section 35-11-9, Okfuskee County, had sand at 1,454 feet, total depth 1,484 feet, was shot and pumped 12 bbls. of oil in 24 hours.

Harry Stekoll and Sinclair Prairie Oil Co. No. 4-A Hildebrand, C S half N half SE section 16-11-11, was bottomed at 2,676 feet and pumped 2 bbls. of oil daily but was completed as a repressure well.

Latimer County

LeFlore Gas & Electric Co. No. 24 Weakly, C N half SW section 3-6-22e, had sand at 1,614 feet, total depth 1,689 feet, produced 500,000 feet of gas and was completed.

Osage County

Lewis Production Co. No. 9 Osage, NE SW NE section 33-24-7, Naval Reserve area, Osage County, had sand at 2,610-62 feet, total depth, was shot and flowed 117 bbls. of oil in 24 hours.

J. D. Simons and Stoner No. 3 Osage, SW SE SW section 6-21-9, topped Layton sand at 1,239 feet, total depth 1,280 feet, and swabbed 7 bbls. of oil daily.

Wolverine Oil Corp. No. 64 N. Avant Unit, NW SW SW section 30-24-12, total depth 1,783 feet, and same operator's No. 54 N. Avant Unit, SW SW NW section 32-24-12, total depth 1,742 feet, were completed as input wells.

Oklahoma Natural Gas Co. No. 1,935 Osage, SE SE NE section 20-22-12, topped Mississippi lime at 1,738 feet and was dry and abandoned at 2,088 feet.

Opal Twyman No. 6 Osage, C N half S half SW section 20-23-11, was dry and abandoned at 1,795 feet, total depth.

Wolverine Oil Corp. No. 13 N. Avant Unit, SW SW SE section 31-24-12, an old well, was deepened from 1,763 feet to 1,833 feet and recompleted as an input well. Same operator's No. 15 N. Avant Unit, NW NW SW SE section 31-24-12, an old well, was deepened to 1,710 feet, shot, pumped 2 bbls. of oil a day and was recompleted.

New activity in Osage County: Powers & Quinlan No. 11 Osage, SE cor. section 26-24-8, location; Pure Oil Co. and Sinclair Prairie Oil Co. No. 173 Osage, NW SW NE section 5-23-8, an old well, rigging up to deepen; Norbla Oil Co. and Carter Oil Co. No. 1 Osage, NW NE SE section 2-25-6, location; Bay Oil Corp. and others No. 2 Osage, NE NW NE section 15-25-9, location; Ross Oil Co. and others No. 4 Osage, SE NW NE section 27-28-10, location.

Estimated Daily Production

Estimated daily average production of Oklahoma for the week ending October 30 and for the preceding week was as follows:

	Barrels	
	Oct. 30	Oct. 23
Allen	5,525	5,600
Billings	7,875	7,400
Burbank	7,900	7,900
South Burbank	13,500	13,750
Balance Osage	20,250	20,250
Blackwell district	5,000	5,025
Bristow-Slick	7,200	7,250
Chandler	2,875	2,850
Crescent	8,425	8,400
Cromwell	3,450	3,425
Cushing-Shamrock	11,150	11,100
Duncan district	3,975	3,975
Edmond	12,400	13,100
Fish	5,425	5,575
Fitts	79,250	79,325
Jesse	3,350	3,850
Graham	4,475	4,450
Gray	1,175	1,175
Healdton	10,050	10,150
Hewitt	4,350	4,375
Holdenville	850	875
Keokuk	8,300	8,325
Konawa	1,525	1,625
Lucien	14,150	15,525
Moore	9,800	9,750
Oklahoma City	141,150	141,050
Olympic	9,875	10,800
Polo	875	900
Sasakwa and townsite	2,525	2,475
Sholem-Alechem	3,000	3,025
Seminole:		
Bowlegs	11,350	11,475
Carr City	5,050	5,100
Earlsboro	6,050	5,800
South Earlsboro	675	675
East Earlsboro	7,225	7,400
Little River	9,525	9,350
East Little River	1,100	1,125
Maud	700	700
Mission	1,925	1,950
Seminole	9,575	9,550
East Seminole	2,200	2,100
Searight	4,375	4,100
Total Seminole	59,750	59,325
St. Louis-Pearson	19,550	19,200
Tatums	6,075	6,000
Tonkawa-Garber-Thomas	4,450	4,475
Wewoka	2,775	2,825
Yale-Jennings	4,175	4,200
Other pools	80,500	80,475
Total Oklahoma	586,725	589,775

Creek County

S. W. Anthony No. 2-B White, SW NW NW section 4-16-12, an old Creek County well, was deepened and was dry and abandoned at 2,121 feet, total depth.

Okmulgee County

E. H. Moore No. 1 Wheeler, NE NE SE section 5-13-11, Okmulgee County, topped Wilcox sand at 3,210 feet, total depth 3,224 feet, had a hole full of water and was abandoned.

J. F. Moore No. 2-A Howell, NW NW SE section 14-14-13, produced 2,000,000 feet of gas from sand at 1,770-73 feet, total depth, and was completed.

Oklahoma Oil Corp No. 1 Hart, C S half NE SW section 5-15-14, was a location.

Carter County

S. and D. Daube No. 30 fee, SW SW SE section 14-4s-3w, Healdton field, Carter County, had oil sands beginning at 984 feet, total depth 1,307 feet, and pumped 17½ bbls. of oil in the first 16 hours.

Magnolia Petroleum Co. No. 73 Richards, SW SE SW section 31-3s-3w, had oil sand at 1,030-1,176 feet, total depth, was shot and pumped 59 bbls. of oil in 15 hours.

S. and D. Daube No. 8 Isabelle, SE cor. section 22-4s-2w, Hewitt area, an old well, was deepened from 2,234 feet to 2,285 feet, pumped 6 bbls. of oil and 7 bbls. of water daily, and was recompleted.

Operations reported for the first time in Carter County: Samedan Oil Co. No. 19 Higgins A, NE cor. section 7-2s-2w, location; Lloyd Noble No. 1 Revelle, C SW SE section 21-3s-2w, wildcat, building derrick; Turman Oil Co. No. 14 Rexroat, SW NE SW section 10-4s-2w, derrick; Gulf Oil Corp. No. 2 McCrory, NW NE NW section 5-1s-3w, building derrick; Magnolia Petroleum Co. No. 1 Pollock, SW SW SE section 14-1s-3w, an old well, building derrick to deepen; Shell Petroleum Corp. No. 16 Hapgood, SW SE SW section 3-4s-3w, pits; same company's No. 21 Johnson, NE SE SW section 4-4s-3w, pits; Sinclair Prairie Oil Co. No. 16 Richards, NE SE NW section 9-4s-3w, pits.

Stephens County

Walter C. Brainard No. 1-A Cruce, NW SE NW section 10-2s-5w, Stephens County, had sand at 792-806 feet, total depth 808 feet, pumped 10 bbls. of oil and was completed.

George L. Pace and others No. 12 Gilworth, C W half SW NW section 2-2s-8w, was dry and abandoned at 2,415 feet, total depth.

Magnolia Petroleum Co. No. 4 Blalock, SW NW NW section 14-2s-5w ws a location. Gulf Oil Corp. No. 13 Sims, SE SE NW section 13-2s-4w, was estimated good for 10 bbls. of oil daily and was rigging up to pump at 402 feet, total depth.

Jefferson County

Three producers and two failures were completed in the Spring-Oscar-Seay district of southern Jefferson County.

Bridwell Oil Co. No. 18 Wahlgemuth, SE NE NW section 30-6s-5w, had lime pay at 1,885-98 feet, total depth, and flowed 204 bbls. of oil daily.

Same company's No. 3 Seay, NW NW NE section 10-7s-5w, had sand at 1,081-93 feet, total depth, was shot and pumped 30 bbls. of oil daily.

Farlyn Oil Co. No. 57 Seay, SE SE SW section 3-7s-5w, had sand at 1,097-1,117 feet, total depth, was shot and pumped 40 bbls. of 32-gravity oil daily.

Long, Yingling & Lauck No. 25 Seay, SE SW NE section 3-7s-5w, was dry and abandoned at 2,000 feet, total depth, in lime.

Tri Oil Co. No. 1 Smart, SW NE NE NW section 13-7s-6w, was dry and abandoned at 2,265 feet, total depth.

Long, Yingling & Lauck No. 26 Seay, SW SW SE section 3-7s-5w, was a rotary rig. Bridwell Oil Co. No. 5 Seay, NE NE NW section 10-7s-5w, was a location. Same company's No. 6 Seay, NE NE NW section 10-7s-5w, was drilling at 1,025 feet.

Grady County

Carter Oil Co. No. 1 Karns, SW NE SE section 21-3n-5w, an old well in the Knox pool, Grady County, was deepened from 1,701 feet to 2,554 feet, plugged back to 2,290 feet, water intruded and it was abandoned.

Caddo County

In the Cement field, Caddo County, Ohio Oil Co. No. 8 Lackey, SE NE NW section 11-5-9w, had sand at 3,875-92 feet, shale 3,892-3,900 feet, sand 3,900-35 feet, and sandy shale 3,935-41 feet, total depth. It flowed 440 bbls. of oil in the first 24 hours through casing.

Magnolia Petroleum Co. No. 6 Hedlund, SW NW NE section 11-5-9w, was a location.

Cotton County

J. C. Davis No. 1-A Grose, NW NE NW section 26-1s-10w, Walters area, Cotton County, was bottomed at 2,250 feet, plugged back to 2,223 feet, produced 200,000 feet of gas and was completed.

Other New Work

In Tulsa County, S. W. Anthony No. 11 Wilcox, C W half NE NW section 3-16-12, rigging up machine. Judge Hollie, Trustee No. 2-A Johnson, SW SW SE section 15-16-12, total depth 1,980 feet, running 5-inch casing. Same operator's No. 1-A Morman, NW NW NE section 22-16-12, location.

(Continued on Page 76)

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Among Gulf Coast Drilling Contractors

Cron & Gracey are moving a rig to the Katy gas field in Waller County where they will drill No. 1 Security Trust Co. for Stanolind Oil & Gas Co. The well is located in the H.&T.C. Survey No. 99. Another Cron & Gracey rotary was recently moved to the Tomball field for Shell Petroleum Corp. No. 1 Stokely while the firm's drilling operations continue with seven rigs at Gibson, Lake Long, Hackberry, Dickinson, Hastings and Flour Bluff fields for Shell Petroleum Corp., Fohs Oil Co., Stanolind Oil & Gas Co. and Humble Oil & Refining Co.

Edwards Drilling Co. received contract from Stanolind Oil & Gas Co. for a projected deep test to be drilled on the Hockley dome in Harris County. It is located on the John Warren mineral lease in the Walker Wade Survey. Other operations include three rigs at Hastings and one at Lockridge for Stanolind Oil & Gas Co. and McCurdy and Johnson.

Glenn McCarthy is rigging up an important wildcat test approximately 3 miles north of the Nome field in Jefferson County, which will be drilled for Lee Brothers, while another rotary is being moved to the Orange field for himself. At Palacios he is operating two outfits for Atlantic Refining Co. and the Sun Oil Co., the latter test is drilling below 10,700 feet which is one of the deepest holes drilled in that area.

F. M. Long is operating one rig in the old Jennings field in Acadia Parish, Coastal Louisiana, for the Louisiana Crusader Oil Co. while in the Conroe field he has one rig on location.

Wynne Crosby is moving rotaries to two wildcat locations. Northwest of the town of Laward, contract was received for a 6,500-foot test to be drilled for Temple Hargrove and Cockburn No. 1 W. L. Hodges in the I.&G.N. Survey No. 7, while in Harris County near the Deer Park area, No. 1 White will be drilled for H. C. Cockburn.

Loffland Brothers are preparing to make a production test at No. 1 Brookshire located at the Abbeville field in Vermilion Parish for the Continental Oil Co. Drilled to a total depth of 11,909 feet, the hole has been plugged back to 11,109 feet and the casing perforated at 10,940-45 feet. In the South Jennings field, No. 1 Fontenot is being drilled for themselves and has reached a depth of 8,435 feet.

H. J. DeArman was making production tests at two important wells at the Sandy Point field in Brazoria County which were drilled for himself. His No. 1 Edmundson which has the appearance of opening a 6,000-foot west extension to the field is being tested at 6,500 feet while No. 1 Fite is being washed in at a plugged back depth of 6,514 feet. Stanolind Oil & Gas Co. No. 1 Edmundson is coring for the sand at 6,500 feet.

Jack Frazier extended the Hardin field approximately 6,000 feet with the completion of Strake Petroleum Corp. No. 1 Finley that was completed for an initial production of 6 bbls. per hour from perforations at 7,547-53 feet. The rig is being moved north for No. 2 Finley. The completion of the Strake well for an oiler sets the stage for an extensive development program as the field is divided into many ownerships. Locations have been made by Humble Oil & Refining Co. for two tests while H. E. Dishman and others have made location for a test southeast of Frazier's gas well in the north part of the field.

H. E. Williams has moved a rig to Waller County for J. Brian Eby and others No. 1 Rice Institute located in the John M. Stephens Survey. It is a projected deep test to the Carrizo horizon.

Martin Thompson Drilling Co. has abandoned Buck and Holt No. 1 Kaainer located south of El Campo in Wharton County at 6,057 feet.

George Echols has cemented surface casing at Cockburn and others No. 1 Mike Strauss, a wildcat in Jackson County, is making a drill stem test at his No. 1 Bennett at the Heyser field and is drilling below 4,700 feet on his No. 7 W. H. Bennett in the same field. Another outfit is on location in the Lodi area in Marion County for Fohs Oil Co.

There were 35 locations made along the Texas Coast the past week, 13 of which were located in the active Hastings field, while the balance were located at Manvel, West Columbia, Heyser, Dickinson, Friendswood, Bay City, Anahuac, Cotton Lake, Saratoga, Amelia, Nome, Esperson, Hardin and Hull fields.

Patrick & Tyrell were preparing to reperforate casing at Merit Oil Co. No. 1 Wright, a possible pool opener for the Cedar Bayou Prospect in Chambers County. After swabbing for 30 hours through perforated casing at 6,424-34 feet, the well kicked off and flowed at the rate of 10 bbls. of pipe line oil per hour and then went dead.

Branch in Corpus Christi

Zingery Oil Map Co. of Houston announces the opening of a South Texas unit with headquarters at 343 Nixon Building, Corpus Christi, Tex. The company will carry a complete line of up-to-date maps on all counties in the lower Gulf Coast and Southwest Texas areas. W. L. Eddleman, formerly with Shell Petroleum Corp., is in charge of the office and is assisted by Gaddis Wittjen, formerly located in the Zingery office.

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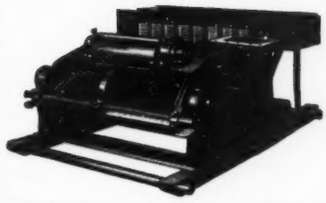

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Rocky Mountain Area

By
T. R. INGRAM

EDDY COUNTY WILDCAT HAS HIGH GRAVITY OIL SHOWING

DENVER, Colo., Nov. 1.—Rotary rig is being moved in for a test of the lower Cretaceous in Logan County, northeastern Colorado.

The Ohio Oil Co. No. 15 Woods was completed in the Dakota in the Elk Basin field in Wyoming for 11,000,000 feet of gas per day. The Chadron-Osage Oil Co.'s deep test in Converse County is showing considerable gas. In the Lance Creek field the Ohio Oil Co. No. 2 Taylor was abandoned. It limits the Minnelusa pay on the southeast. Argo Oil Co' No. 4 Ford is flowing 100 to 150 bbls. per day from the Minnelusa.

Only five wells are drilling in the Cut Bank field in Montana. Lawler-Hoerr's No. 2 Downen, offset to dry hole, is flowing 100 bbls. per day. R. C. Tarrant's No. 6 Long-Miller was abandoned. The Glacier Production Co. No. 1 Forbes Unit is a gas well. Kevin-Sunburst had one dry hole and four new operations.

NEW MEXICO

Eddy County held the oil spotlight in New Mexico the past week, with the opening of a new producing area indicated at R. A. Shugart No. 1 Coulthard, C NW SW section 35-18-31, in the northeastern part of the county and south of the general Maljamar district. Pay was found at 3,440-47 feet and 600 feet of oil rose in the hole in eight hours. The crew started running 6⅝-inch casing, preparatory to testing, and when about 30 joints had been run the fluid level had risen to 1,200 feet. The oil tested 37.2 degrees gravity.

The only active wildcat in Curry County, Bond & Harrison No. 1 Hart Ranch, C NW SE section 13-2n-31, was drilling ahead in lime below 3,174 feet after finding sulfur water from 3,100 feet to 3,165 feet.

In De Baca County, Land Owners Oil Co. No. 1 McAdoo, SW cor. section 16-1s-27, an old well bottomed at 5,860 feet, was reported pulling pipe and preparing to drill deeper.

New Mexico completions of the week included Skelly Oil Co. No. 6 R. R. Sims, C SW SW section 3-23-37, Lea County. It produced 110 bbls. of oil daily at 3,630 feet, total depth.

Continental Oil Co. and others No. 1-A-30 Warren, C SE NW section 30-20-38, Lea County, was bottomed at 3,860 feet and after a shot flowed 52 bbls. of oil daily.

Gulf Oil Corp. No. 3-C Kutter, C SE NW section 18-19-37, Lea County, was treated with acid and flowed 123 bbls. of oil in six hours, at 4,030 feet, total depth, for potential of 492 bbls. daily.

Gulf Oil Corp. No. 1-B Bell-Ramsey, section 20-20-37, which has been shut down for several weeks at total depth of 3,840 feet, produced 6 bbls. of oil and 2 bbls. of water daily and was reported as a completion.

Repollo Oil Co. No. 3 Jamison, SW NE NE section 21-24-37, Lea County, was bottomed at 3,669 feet and flowed 125 bbls. of oil a day.

Schermerhorn Oil Co. No. 2 Woolworth, C SE NE section 28-24-37, total depth 3,577 feet, plugged back to 3,557 feet, and flowed 326 bbls. of oil daily.

Two States Oil Co. No. 1 Atha, C SW SW section 31-21-36, was the other Lea County completion of the week. Total depth was 3,872 feet, and after acidizing it swabbed and flowed 200 bbls. of fluid, 20 per cent water, in 10 hours.

One completion was registered in Eddy County at W. K. Royalty Co. No. 1 State, C SW NE section 16-17-31. It swabbed 62 bbls. of oil in eight hours at 3,378 feet, total depth.

Lea County

Amerada Pet. Corp. No. 6 Byrd, SE sec. 12-20-36. Loc.
Amerada Pet. Corp. No. 2 Corrigan, C S half SE NE sec. 4-22-37. Loc.
Amerada Pet. Corp. No. 1 Hare, C SW SW sec. 33-21-37. T.D. 3,115 ft.; S.D. repairs.
Amerada Pet. Corp. No. 3 Laughlin, C NW NE sec. 9-20-37. T.D. 2,585 ft.; set 8-in. 2,573 ft.
Amerada Pet. Corp. No. 1 Stuart, C W½ NW NW sec. 14-25-37. Drlg. 2,950 ft.
Anderson-Prichard Oil Corp. No. 1 Wells, C SE SE sec. 5-27-37. Drlg. 3,575 ft.
Anderson-Prichard Oil Corp. No. 1 Gregory, NW sec. 33-25-37. T.D. 3,237 ft.; testing.
Anderson-Prichard Oil Corp. No. 2 Langlie, SE sec. 8-25-37. T.D. 2,466 ft.; shot; cleaning out.
Anderson-Prichard Oil Corp. No. 3 Langlie, NE sec. 8-25-37. Rigging up rotary.
Anderson-Prichard Oil Corp. No. 1-D Langlie, NE sec. 8-25-37. T.D. 3,455 ft.; testing.
Bradley Oil Co. No. 1 Grizzell, C SW NE sec 5-22-37. T.D. 3,477 ft.; set 7-in. 3,475 ft.
Cities Service Oil Co. No. 7-A Closson, C W½ SE NE sec. 6-22-36. Drlg. 3,385 ft.
Cities Service Oil Co. No. 1-H State, C NE NE sec. 17-22-36. T.D. 3,884 ft.; preparing to deepen.
Cities Service Oil Co. No. 1-A Closson, C NE NE sec. 18-22-36. Wildcat; drlg. 836 ft.
Continental Oil Co. No. 1-B-6 Elliott, C NE SE sec. 6-22-37. Drlg. 2,930 ft.
Continental Oil Co. No. 2-B-6 Elliott, C NW SW sec. 6-22-37. T.D. 1,165 ft.; set 7⅝-in. 1,160 ft.
Continental Oil Co. No. 3-B-6 Elliott, C SE SE sec. 6-22-37. T.D. 304 ft.; set 10¾-in. 298 ft.
Continental Oil Co. No. 1-B-10 Britt, SW sec. 10-20-37. T.D. 3,684 ft.; set 5½-in. 3,663 ft.
Continental Oil Co. No. 6-A-30 Lockhart, NW sec. 30-21-36. T.D. 3,940; testing after acid.
Continental Oil Co. No. 3-B-31 Lockhart, SE sec. 31-21-36. Drlg. 3,296 ft.
Continental Oil Co. No. 6 Lockhart, NE SE NW sec. 30-21-36. T.D. 294 ft.; set 10¾-in. csg, at 286 ft.
Continental Oil Co. No. 1-A Jack, C SW SW sec. 21-24-37. T.D. 1,194 ft.; set 10¾-in. 211 ft.
Continental Oil Co. No. 1-B-24 Reed, C SE SW sec. 24-20-36. Drlg. 2,542 ft.
Continental Oil Co. No. 2-B-24 Reed, SW sec. 24-20-36. Derrick.
Continental Oil Co. No. 4-A-14 Sanderson, C NE SE sec. 14-20-36. Drlg. 3,022 ft.
Continental Oil Co. No. 5-A-14 Sanderson, NE NE NW sec. 14-20-36. Drlg. 2,190 ft.
Continental Oil Co. No. 6-A-14 Sanderson, SE sec. 14-20-36. Drlg. 290 ft.
Continental Oil Co. No. 1-A-7 State, SE sec. 7-19-37. Spudding.
Continental Oil Co. No. 3-A-26 State, C SW NE sec. 26-19-36. T.D. 4,024 ft.; P.B. 3,950 ft.; shot; testing.
Crandall, Osmond & Maxwell et al No. 1 Maxwell Permit, C SE SE sec. 2-11-36. Drlg. 4,346 ft.
Cranfill & Germany No. 1 Weir, C NE NE sec. 15-20-37. T.D. 4,210 ft.; S.D.O.
Culbertson & Irwin No. 2-A Humphrey, NE NE NW sec. 3-25-37. T.D. 3,474 ft.; F. 124 B.O. in 10 hrs.
Culbertson & Irwin No. 3-A Humphrey, NE SW NE sec. 3-25-37. T.D. 3,220 ft.; set 6⅝-in. 3,200 ft.
Eastland Oil Co. No. 1 Waldrop, C SE SE sec. 1-20-38. T.D. 120 ft.; bldg. drk.
Emperor Oil Co. No. 1 Johns, C SW NW sec. 24-17-32. Drlg. 4,122 ft.
Empire Oil & Ref. Co. No. 1-G State, sec. 2-21-36. T.D. 3,900 ft.; shut down.
Empire Oil & Ref. Co. No. 2-B State, C SE SW sec. 2-21-37. Drlg. 3,850 ft.
J. E. Farrell No. 2-C Walden, C SE SW sec. 15-22-37. Drlg. 3,665 ft.
Great Western Prod. Co. No. 1 State, C SE SE sec. 16-26-37. Drlg. 3,040 ft.
Gulf Oil Corp. No. 1 Boyd, sec. 23-22-37. T.D. 3,681 ft.; testing.
Gulf Oil Corp. No. 2 Cole, C NE NE sec. 16-22-37. T.D. 1,141 ft.; shut down.
Gulf Oil Corp. No. 1 Elliott, SW SE SE sec. 15-25-37. Drlg. 3,380 ft.
Gulf Oil Corp. No. 1-E Janda-State, NE NW NE sec. 21-23-36. Rigging up rotary.
Gulf Oil Corp. No. 1-B Stebbins, NE sec. 5-22-37. Drlg. 885 ft.
Gulf Oil Corp. No. 1 Felton, C SE SE sec. 28-21-36. Drlg. 3,722 ft.
Gulf Oil Corp. No. 1-B Shipp, C NW SW sec. 8-19-37. Drlg. 3,643 ft.
Gulf Oil Corp. No. 1-B White, SE sec. 35-20-36. Drk.
Herschback Oil Co. No. 1 Alexander, C NE SW sec. 5-21-37. Drlg. 2,986 ft.
Herschback Oil Co. No. 1 Burleson, C E half NE NW sec. 8-25-37. Loc.
Humble O. & R. Co. No. 2 Fopeano, C SE NE sec. 35-20-36. Drlg. 3,740 ft.
Humble O. & R. Co. No. 3 Williams, C SW NW sec. 34-24-37. T.D. 3,305 ft.; set 7⅝-in. 3,305 ft.
Humble O. & R. Co. No. 1 Fopeano, C SE SW sec. 25-20-36. Drlg. 3,185 ft.
Humble O. & R. Co. No. 2 Saunders, C NW NW sec. 9-22-34. Drlg. 3,770 ft.
Jal Nat. Gas Corp. No. 2 Justis, NE sec. 20-25-37. T.D. 3,029 ft.; testing.
Carl B. King No. 1 Stuart, NW SW SW sec. 11-25-37. R.U.R.
Landreth Prod. Co. No. 1 Grizzell, NE sec. 8-22-37. T.D. 3,739 ft.; acidized.
Landreth Prod. Co. No. 2 Grizzell, C SW NE sec. 8-22-37. Cellar and pits.
Magnolia Pet. Co. No. 1 State G, NW NW NE sec. 34-17-34. T.D. 4,905 ft.; P.B. 4,794 ft.
Magnolia Pet. Co. No. 2 State-Bridges, sec. 14-17-34. T.D. 4,593 ft.; F. 51 B.O. in 1 hr., naturally.
Magnolia Pet. Co. No. 3 State-Bridges, C SW SE sec. 23-17-34. Drlg. 325 ft.
J. A. Mascho No. 1 Cloyd, C SE SE sec. 20-22-33. Wildcat; drlg. 2,530 ft.
McDonald & Weiner No. 1 Elliott, SE cor. sec. 19-21-37. T.D. 3,778 ft.; testing.
C. T. McLaughlin No. 1 Polhamus, NE sec. 9 24-37. Drlg. 1,161 ft.
Mid-Continent Pet. Corp. No. 2 Boren, C SE NE sec. 20-22-36. T.D. 3,700 ft.; set 7-in. 3,690 ft.
Murray et al No. 4 State Wallace, NW SW NW sec. 3-21-36. T.D. 3,840 ft.; acidized; F. 67 B.O. daily.
National Drlg. & Prod. Co. No. 1 Flint, C NE NE sec. 29-20-34. Wildcat; drlg. 3,653 ft.
Ohio Oil Co. No. 2 Grizzell, C NW SE sec. 5-22-37. T.D. 3,600 ft.; prep. to drill in.
Ohio Oil Co. No. 1 Hardy, NE NE SE sec. 20-21-37. T.D. 2,405 ft.; changing drlg. line.
Ohio Oil Co. No. 1 Kutter D, C SW SW sec. 18-19-37. Drlg. 3,535 ft.
Ohio Oil Co. No. 7 State-McDonald, C SW SE sec. 16-22-36. T.D. 3,871 ft.; cleaning out.
Lem Peters No. 1 Graham, sec. 27-22-37. T.D. 340 ft.; U.R. 12¼-in. csg.
Plains Prod. Co. No. 1 Humphreys, NE sec. 3-25-37. Loc.
Plains Prod. Co. No. 1 Stuart, NE SW SW sec. 10-25-37. T.D. 3,163 ft.; running csg.
Repollo Oil Co. No. 1 Carter, SW SE NE sec. 8-24-37. T.D. 3,787 ft.; P.B. 3,660 ft.; F. 80 B.O.P.D.
Repollo Oil Co. No. 3 Christmas, NW NW NE sec. 28-22-37. Drlg. 90 ft.
Repollo Oil Co. No. 1 Cowden, NE cor. sec. 31-23-37. T.D. 3,483 ft.; drlg. plug.
Repollo Oil Co. No. 3 Moseley, SW sec. 34-24-37. Drlg. 65 ft.
Repollo Oil Co. No. 4 Roach, NW NW SW sec. 21-20-37. T.D. 3,875 ft.; P.B. 3,854 ft.; testing.
Repollo Oil Co. No. 1 Turner, sec. 29-21-37. Drlg. 1,205 ft.
Repollo Oil Co. No. 1 White, SE NE SE sec. 35-20-36. T.D. 3,860 ft.; acidized; F. 582 B.O. in 14 hrs.
Republic Prod. Co. No. 1 Davis, SW cor. sec. 34-23-36. Drlg. 3,061 ft.
Rowan Drlg. Co. No. 1 Elliott B, C NE NW sec. 9-22-37. T.D. 3,747 ft.; testing.
Rowan Drlg. Co. No. 2 Elliott B, C NW NW sec. 9-22-37. T.D. 1,177 ft.; W.O.S.T.
Rowan Drlg. Co. No. 2-A Elliott, C NE SW sec. 27-22-37. Derrick.
Rushwold Oil Co. No. 1 Mattix, NE sec. 10-24-37. Cellar and pits.
Samedan Oil Co. No. 3 Hughes, sec. 4-23-27. T.D. 3,631 ft.
Samedan Oil Co. No. 4 Hughes, C NW SE sec. 10-23-37. Drlg. 1,360 ft.
Shell Pet. Corp. No. 3 Black, SE SE SW sec. 21-24-37. Drlg. 3,158 ft.
Shell Pet. Corp. and Devonian Oil Co. No. 3 Christmas, C SW NE sec. 21-22-36. T.D. 3,680 ft.; set 7-in.; W.O.C.
Shell Pet. Corp. No. 2 Rinewalt, NW sec. 4-22-37. T.D. 1,212 ft.; set 9⅝-in. 1,208 ft.
Shell Pet. Corp. No. 4-E State, C SW NW sec. 12-20-36. Drlg. 3,777 ft.
Skelly Oil Co. No. 5 J. B. Baker, C SE NW sec. 27-22-37. T.D. 3,620 ft.; testing.
Skelly Oil Co. No. 1 Combest, NW NW SE sec. 27-23-36. Drlg. 3,050 ft.
Skelly Oil Co. No. 1 E. T. Johns, SW sec. 21-24-37. Cellar, pits.
Skelly Oil Co. No. 2 Mon-State, C NE SE sec. 13-19-36. T.D. 1,300 ft.; set 9⅝-in. 1,294 ft.
Skelly Oil Co. No. 3 E. Sims, C SE SE sec. 2-23-37. T.D. 3,675 ft.; C.O.
Skelly Oil Co. No. 3 G. W. Sims, C NW NE sec. 9-23-37. T.D. 3,642 ft.; cleaning out.
Skelly Oil Co. No. 1-C R. R. Sims, sec. 3-23-37. Drlg. 3,622 feet.
Skelly Oil Co. No. 1-E W. P. Sims, C NW NE sec. 10-23-37. T.D. 3,625 ft.; flow. 452 bbls. in 24 hours.
Skelly Oil Co. No. 2 W. P. Sims, C SE NE sec. 10-23-37. Drlg. 1,171 ft.
Skelly Oil Co. No. 1 State H, C E half SW NW sec. 25-20-36. Drlg. 3,543 ft.
Skelly Oil Co. No. 2 State H, C E half NW NW sec. 25-20-36. Drlg. 3,515 ft.
Skelly Oil Co. No. 2 Sticher, C NW SW sec. 4-22-37. T.D. 3,561 ft.; set 7-in.
Stanolind O. & G. Co. No. 29-B Farnsworth, C SW NW sec. 7-26-37. Cellar and pits.
Stanolind O. & G. Co. No. 10-A Gilluly, SE SE NE sec. 24-20-36. T.D. 2,485 ft.; set 9⅝-in. 2,481 ft.
Stanolind O. & G. Co. No. 11-A Gilluly, C SW NE sec. 24-20-36. T.D. 2,490 ft.; set 9⅝-in.
Stanolind O. & G. Co. No. 12 Gilluly A, C NW NW sec. 24-20-36. Drlg. 3,650 ft.
Stanolind O. & G. Co. No. 1-B O. J. Gilluly, C NW SW sec. 25-20-36. T.D. 3,770 ft.; set 7⅝-in. 3,741 ft.
Stanolind O. & G. Co. No. 2-A Langlie, C NW SW sec. 9-25-37. Drlg. 3,356 ft.
Stanolind O. & G. Co. No. 1-A Hill, C NW SE sec. 6-21-37. Location.
Stanolind O. & G. Co. No. 1-B Hill, NE sec. 6-21-37. Drlg. 2,873 ft.
Stanolind O. & G. Co. No. 2-B Langlie, C NW NW sec. 15-25-37. T.D. 3,458 ft.; P.B. 3,147 ft.; shut in.
Stanolind O. & G. Co. No. 2-A Myers, C SW SW sec. 15-24-37. Derrick.
Stanolind O. & G. Co. No. 3-A Myers, C SW SE sec. 22-24-37. Drlg. 2,770 ft.
Stanolind O. & G. Co. No. 1 State, C SE SE sec. 2-21-36. T.D. 3,854 ft.; testing.
Stanolind O. & G. Co. No. 1 State, C SE SE sec. 16-24-37. T.D. 3,540 ft.; C.O.
Stanolind O. & G. Co. No. 1 Thompson, NE sec. 6-21-27. Location.
W. H. Street No. 2 Wood, C SW NE sec. 22-22-37. T.D. 3,692 ft.; C.O.
Sun Oil Co. No. 6 Akens, C NE SE sec. 3-21-36. T.D. 3,741 ft.; running casing.
Texas Co. No. 2 Fristoe, NW NE NE sec. 3-25-37. Drlg. 200 ft.

Texas Co. No. 2-B State, SE sec. 16-23-36. R.U.R.
Texas Co. No. 6-C State, NE sec. 19-20-37. T.D. 145 ft.; set 13-in. 135 ft.
Texas Co. No. 11-L State, C SW NE sec. 1-18-34. Drlg. 4,215 ft.
Texas Co. No. 2 Falvy, C NW NW sec. 8-22-37. Drlg. 1,600 ft.
Texas Pacific C. & O. Co. No. 6-A State, Acct. 2, NE sec. 7-22-36. T.D. 3,826 ft.; set 7-in. 3,731 ft.
Two States Oil Co. No. 1 Morris, SW SE SE sec. 21-18-38. R.U.R.
Williams & Cockburn No. 3 Miller, C SW SW sec. 23-17-32. T.D. 3,880 ft.; to shoot.

Eddy County

F. E. Baker No. 1 Eddy, NE sec. 12-22-27. T.D. 55 ft.; shut down.
Barnett Oil Dev. Co. No. 1 King Permit, C NW SE sec. 23-26-30. Rigged up and shut down.
Fred Brainerd No. 2 Brainerd, sec. 5-18-27. T.D. 1,824 ft.; to acidize.
Ed Bryant No. 1 Stebbins, C NE SW sec. 19-20-29. T.D. 1,000 ft.; S.D.O.
Carper Drlg. Co. No. 2 Gissler, SW SE NW sec. 23-17-30. Drlg. 3,255 ft.
Cities Service Oil Co. No. 1 State, CSL SW SE sec. 16-17-30. T.D. 3,287 ft.; swb. 65 B.O.P.D.
Continental Oil Co. No. 1 Etz, C NW NE sec. 24-16-30. T.D. 3,745 ft.; C.O. at 3,710 ft.
Danciger O. & R. Co. No. 3 Turner, SW NE SW sec. 18-17-31. Drlg. 2,308 ft.
Emperor Oil Co. No. 3 Puckett, C NE NW sec. 24-17-31. Drlg. 3,805 ft.
Etz Bros. No. 4 State, C S½ SE SE sec. 16-17-30. T.D. 480 ft.; W.O.C.
Finley & Cherry No. 1 Buchley, C NW NW sec. 28-16-31. Wildcat; drlg. 2,175 ft.
Flint Prod. Co. No. 1-B State, SE sec. 20-17-30. Drlg. 3,800 ft.
Franklin Pet. Corp. No. 1 McIntyre, NE NW SW sec. 20-17-30. Rigged up and shut down.
C. J. Frederick No. 1 Reed, C NE SW sec. 28-24-28. Drlg. 505 ft.
F. W. & Y. Oil Co. No. 6-A Gissler, NE sec. 23-17-30. Drlg. 2,589 ft.
F. W. & Y. Oil Co. No. 7-A Gissler, NE sec. 23-17-30. Drlg. 2,735 ft.
F. W. & Y. Oil Co. No. 1-B Gissler, SW sec. 14-17-30. Loc.
F. W. & Y. Oil Co. No. 3 Jackson, C NW SE sec. 13-17-30. T.D. 2,953 ft.; fishing.
Geo. F. Getty, Inc., No. 1-E State, NE SW SW sec. 16-17-31. Rigging up machine.
Grayburg Oil Co. No. 8 Burch, SE SE NW sec. 19-17-30. Drlg. 2,965 ft.
Grayburg Oil Co. No. 9 Burch, SW NE NE sec. 19-17-30. Drlg. 2,027 ft.
Grayburg Oil Co. No. 4 Keely, SE sec. 24-17-29. Location.
M. A. Grisham No. 1 Chaytor, NE sec. 14-24-26. Moving in machine.
R. L. Holcomb No. 1 State, NW sec. 22-17-28. T.D. 455 ft.; S.D.
Woodworth Hawkins No. 1 Mack, C SW SW sec. 20-24-27. T.D. 380 ft.; rigging up machine.
C. F. Ingram No. 1 Page, NE NE SW sec. 15-21-28. T.D. 1,140 ft.; S.D.
Nash-Windfohr & Brown No. 4-A Jackson, NE sec. 13-17-30. T.D. 3,451 ft.; cleaning out.
Nash-Windfohr & Brown No. 5-A Jackson, NE sec. 13-17-30. Drlg. 2,785 ft.
Nash-Windfohr & Brown No. 4-A Stevens, C SW SW sec. 13-17-30. Drlg. 3,345 ft.
Nash-Windfohr & Brown No. 2-B Stevens, NW sec. 13-17-30. Rig.
Nash-Windfohr & Brown No. 6-A Jackson, SE sec. 13-17-30. Drlg. 2,155 ft.
Nash-Windfohr & Brown No. 7-A Jackson, SE sec. 13-17-30. Drlg. 2,450 ft.
W. A. Nichols No. 1 Johnson, NE sec. 35-16-21. Wildcat; T.D. 3,697 ft.; P. 20 B.O.P.D.
Premier Pet. Corp. No. 1-E Parke, sec. 22-17-30. T.D. 3,423 ft.; F. 170 B.O. in 12 hours.
Repollo Oil Co. No. 2-D McIntyre, NW NE SW sec. 20-17-30. T.D. 3,280 ft.; fishing.
Repollo Oil Co. No. 3-D McIntyre, SE cor. sec. 17-17-30. Location.
Repollo Oil Co. No. 1-A Parke, NW NE NE sec. 22-17-30. Cellar and pits.
Repollo Oil Co. No. 2 West, SW SE SE sec. 9-17-31. R.U.M.
Paul Sargent No. 1 State, NE sec. 16-17-31. T.D. 3,749 ft.; P.B. 3,745 ft.; testing.
R. A. Shugart No. 1 Coulthard, C NW SW sec. 35-18-31. T.D. 3,447 ft.; 600 ft. oil in hole.
W. O. Snyder No. 1 Pecos Irrigation, C NE SE sec. 15-25-28. Drlg. 1,500 ft.
Weiner & McDonald No. 1 Kerr, C SE NW sec. 3-24-29. Drlg. 2,800 ft.
Western Gas Co. No. 1 Cagle, C NW NW sec. 8-26-30. Drlg. 2,665 ft.

Chaves County

English & Hamon No. 11 Billingslea, SE sec. 9-15-29. T.D. 3,545 ft.; P.B. 3,427 ft.; S.D.
E. J. Fisher No. 1 Etz Permit, NE sec. 23-7s-26. R.U. machine.
Mathieson et al No. 1 Cole, C NE NW sec. 19-15-27. Drlg. 805 ft.

Curry County

Bond & Harrison No. 1 Hart Ranch, C NW SE sec. 13-2n-31. Drlg. 3,174 ft.

De Baca County

Land Owners Oil Co. No. 1 McAdoo, SW cor. sec. 16-1s-27e, old well preparing to deepen from 5,860 feet.

Dona Ana County

Juels C. Bertrand No. 1 Casad Permit, sec. 24-26-5e. T.D. 47 ft.; S.D.O.

McKinley County

S. Dysart No. 1 Government, NE sec. 14-14-10w. T.D. 1,390 ft.; fsg.

Otero County

George Mulvey No. 1 State, SW cor. sec. 11-25-8. T.D. 263 ft.; S.D.
Fred Turner No. 1 Evans, NW NW SW sec. 22-14-12. O.W.D.D.; wildcat; T.D. 3,763 ft.; S.D.

Roosevelt County

C. S. Peterson and Conquistadores Oil Co. No. 1 Good, NW SE SE sec. 28-5s-30. Drlg. 360 ft.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc., No. 2 North Albuquerque, NE SE NW sec. 19-11n-4e. S.D. 3,750 ft. for csg.

McKinley County

Guarantee Oil Co. No. 1 fee, NW NW NW sec. 31-20n-9w. Drlg. 300 ft.
S. Dysart et al No. 1 Bouton, CEL NW NE sec. 14-14n-10w. T.D. 1,390 ft.; re-ran 12½-in. to 1,320 ft. and S.D.

San Juan County

Continental Oil Co. No. 65 Rattlesnake, NE NW SE sec. 2-29n-19w. Drlg. 692 ft.
Jack Amenda No. 4 Hart, NW NE SW sec. 25-30n-12w. S.D. 2,048 ft.
Anna Oil Corp. No. 6 Govt., SW NE NE sec. 33-30n-11w. Drlg. below 1,000 ft.

Socorro County

Central New Mexico Oil Co. No. 1 Brown, SE NW sec. 16-3n-1e. S.D. 1,000 ft. C.D. W.O. new boilers.

Valencia County

C. A. Brober et al No. 1 Fuqua, NE NE sec. 19-5n-3e. S.D. 900 ft.; to chge. to rotary.
Big Three Oil Co. No. 1 Dalles Townsite, SE SE NW sec. 5-6n-1e. T.D. 6,001 ft.; set whipstock at 5,640 ft.; W.O. equip.

COLORADO

Adams County

Oklahoma Oil Co. No. 1 Baxter, C SW sec. 2-3s-66w S.D. 4,555 ft.
Glenridge Oil Corp. No. 1 Hills, SE SE SE sec. 27-3s-64w. T.D. 4,345 ft.; C.O. and prep. to cmt. caving hole.

Archuleta County

Prospect Oil Synd. No. 2 Lena M. Garnett, NW SW NE sec. 13-33n-2e. Spd. Oct. 26.
Cortez Oil Co. No. 1-A Crowley, NW SE NE sec. 2-32n-2e. Drlg. 260 ft.

Boulder County

J. B. Furstenberg No. 1 Foote, SE sec. 20-1n-70w. T.D. 2,480 ft.; rec. fish; C.O.
Boulder Prod. & Ref. Co. No. 11 Harlow Est., SE NE sec. 36-2n-71w. S.D.O. 765 ft.; dry in Muddy.

Garfield County

Roaring Fork Oil Co. No. 1 Patterson, C NE sec. 36-7s-88w. S.D. 570 ft.

Huerfano County

S. W. Pressey No. 1 Ojo, SW NE sec. 10-29s-69w. T.D. 3,550 ft.; cmtg. through gas flow.
S. W. Pressey No. 2 Alamo, C SW SE sec. 3-27n-68w. Spd.

Grand County

Interstate O. & R. Co. No. 1 Hinman, NE SE NW sec. 11-2n-81w. Drlg. 2,230 ft.; carrying 6¼-in.

Jackson County

Colorado Oil Ref. Co. No. 1 North Park Coal, NW NW sec. 18-9n-78w. T.D. 3,015 ft.; rng. 8¼-in. to 3,000 ft.

Larimer County

The Great West Oil & Gas Corp. No. 1 Haworth, half a mile east of a small producer on the Berthoud dome, had a show of gas at 3,853 feet and a show of oil at 3,855 feet. It had the top of the Muddy at 3,865 feet and bailed 35 bbls. of oil followed by water. It is underreaming to set the 6⅝-inch on bottom at 3,887 feet and will then drill on down to the Dakota.

Great West O. & G. Corp. No. 1 Haworth, C SW SE sec. 16-4n-69w. T.D. 3,887 ft.; U.R.6⅝-in.

LaPlata County

N. Spatter No. 1 Bryce, SE SW SW sec. 31-33n-9w. T.D. 800 ft.; installing new sd. and drlg. lines.

Lincoln County

Consolidated Smelting & Metals Corp. No. 1 Hancock, NE NE SW sec. 7-17s-52w. S.D. 2,860 ft.
Gulf Oil Corp. No. 1 Smith, C SW SE sec. 19-15s-53w. Drlg. in br. L. at 5,532 ft.; no shows.

Logan County

Rotary rig is being moved in for a test on the West Plains Structure in Logan County, northeastern Colorado, in the Transylvania Development Co. No. 1 Lawrence Sheldon, NE section 3-10n-55w, one-fourth of a mile from the West Plains postoffice. Deal was closed with the West Plains Development Co. for the acreage and provides for the drilling of two wells, one on the north end and the other on the south end. The two domes are separated by a syncline and the south test will not be drilled until next year. The structure was mapped by the late C. T. Lupton, of Denver, and several major companies made seismograph surveys. Location for first test was spotted by H. C. Beeler. The Helmerich & Payne Drilling Co.'s rig used in drilling the Morgan, Flynn & Cobb No. 1 Hostetter, in Kiowa County, has been purchased and is being moved in. The Foxhills and Pierre are at the surface. A. A. Potter is field manager for the drilling company. The West Plains Development Co. is headed by Leo E. Osborn, of Sidney, Nebr. R. A. Babcock and A. A. Potter are vice presidents; H. A. Smith, Kimball, Nebr., is secretary and treasurer; John W. Sprague, of West Plains, is trustee, and Roland V. Rodman, Kimball, Nebr., attorney.

Transylvania Dev. Co. No. 1 Sheldon, NE sec. 3-10n-55w. Cellar; M.I. rot. (first report).

Mesa County

Midwest Drlg. & Dev. Co. No. 1 Callahan, NE NW SE sec. 30-8s-97w. Drlg. 2,565 ft.
Continental Oil Co. et al No. 1 Miller, SW SW NW sec. 36-8s-91w. Cmtd. 13⅜-in. at 630 ft. with 480 sacks and S.D. for winter.

Moffat County

Morapas Pet. Co. No. 1 Coles, SW SW SE sec. 1-3n-92w. S.D. 2,670 ft. for 8¼-in.; thru Frontier at 2,480-2,550 which had S.O. and G.; no w.
Kerr-Lynn Drlg. Co. No. 1 Denise, C SE SE sec. 19-9n-99w. Drlg. 2,805 ft. in intermittent pink and marcon sh. and white sd. (Formerly Anderson-Kerr Drlg. Co.)

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NW sec. 31-36n-17w. T.D. 3,830 ft.; rmg. at 3,790 ft. to set 4¾-in. on bttm.; making about 3 B.P.D. 45 grav. oil; 830 ft. in Penn.

Morgan County

Swisher et al No. 1 Lunt, SE cor. sec. 3-4n-60w. T.D. 1,718 ft.; fsg. two strings tools and bailer.

Park County

South Park Oil Co. No. 1 State, SE SE SW sec. 16-11s-75w. S.D. 5,705 ft.; for winter.
South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75w. Drlg. 5,255 ft.

Pitkin County

Glenco Dev. Co. No. 1 Govt., NW cor. sec. 9-10s-89w. T.D. 1,040 ft.; redrlg. 12½-in. hole at 590 ft.

Prowers County

The Continental Oil Co. is seeking extensions of leases on the Cottonwood block which begin to expire next year. While no drilling date is set, it is understood that a well is to be started by May 1, 1938, provided a 100 per cent of leases are extended. This is one of the few blocks in eastern Colorado where there is good surface geology.

Rio Blanco County

Buford Oil Co. No. 1 Govt., C SW SW sec. 16-1n-91w. T.D. 1,940 ft.; fshg.
Texas Co. and California Co. No. 1 Unit, SW SE NW sec. 35-3n-94w. Cd. to 6,144 ft.

WYOMING

Albany County

The Murphy Oil Co. has released location for its No. 11 Holst on the Quealy dome. It is an outside well at the north end of the pool, a west offset to No. 9 Holst.

Murphy Oil Co. No. 11 Holst, NE SW NE sec. 13-17n-77w. Laying lines. (First report.)
Wyco Oil Co., Inc., No. 2-X Chappel, NE NE NW sec. 33-21n-76w. M.I.R.
Ohio Oil Co. No. 2 Griffin, SW SE SW sec. 2-21n-77w. T.D. 225 ft; rng. surf. pipe.
Murphy Oil Co. No. 10 Holst, SE SE NE sec. 13-17n-77w. Drlg. blk. sh. 3,487 ft.
Wyco Oil Co., Inc., No. 1 Chappel, C NE NW sec. 33-21n-76w. T.D. 765 ft.; swbg.; incr. in gas.
Murphy Oil Co. No. 2 Holst-Woolf, NE NW NW sec. 19-17n-76w. Drlg. gr. sh. 1,361 ft.

Big Horn County

Ohio Oil Co. No. 3 Sidon Canal, NW SW (Lot 40), sec. 24-56n-97w. Loc.; W.O. rig.
Joan Oil Co. No. 1 Howell, sec. 32-55n-97w (Lot 63). S. D. 1,150 ft.
Peay Oil Co. No. 1 Denio, Tr. 43-C, sec. 15-55n-97w. S.D. 3,930 ft.

Carbon County

Superior Oil Co. No. 1 Christensen, NW NW NW sec. 7-12n-92w. R.U.R.
Ohio Oil Co. No. 2 Union Pacific, SW SW SE sec. 20-21n-80w. Bldg. rig.
Ohio Oil Co. No. 1 Brimmer, C NW NE sec. 32-27n-89w. R.U.R.
Ohio Oil Co.-California Co. No. 4-B Kyle, C SW SW sec. 24-21n-79w. W.O. rig.
Ohio Oil Co.-California Co. No. 6 Union Pacific-Cronberg, C SW SE sec. 23-21n-79w. W.O. rig.
Ohio Oil Co. No. 12 H.&C., SE SW sec. 35-20n-78w. T.D. 3,210 ft.; cmtd. 7-in. at 3,174 ft. on top Sundance sat.; swbg. and tstg.; est. 200 B.P.D.
Sinclair-Wyoming Oil Co. No. 11 Wertz, SE NW NW sec. 7-26n-89w. Drlg. 5,963 ft. in chert and dolomite; no shows in Embar.
Producers Oil Co. No. 1, CNL sec. 14-20s-88w. Drlg. 194 ft.
Ohio Oil Co.-California Co. No. 5 Cronberg-U.P., C NW NW sec. 25-21-79w. T.D. 5,643 ft.; cmtd. 7-in. at 5,557 ft.; shot at 5,605 and 5,568 ft.
Ohio Oil Co. California Co. No. 3-A Kyle, C SW NE sec. 26-21n-79w. T.D. 5,748 ft.; lower Sundance dry; P.B. to 5,733 ft.; W.O.C.
Medicine Bow Oil Co. No. 1 Hintze-Govt., C NE SE sec. 18-22n-78w. S.D. 2,347 ft.

Converse County

The Chadron-Osage Oil Co. No. 1 State, in the Shawnee district, is bottomed at 4,060 feet where it had a substantial show of gas which sprayed water over the top of the derrick. The water is believed to be coming from behind the 8¼-inch at 4,040 feet. It is shut down waiting for the state oil and gas inspector before recementing the 8¼-inch. Hole is believed to be on top of the Lakota.

Two new operations were reported in the West Shawnee district.

D. O. Gray No. 1 Lane, SW SE SE sec. 22-32n-69w. Loc. (First report.)
Kaufman & Quinlan Bros. No. 1 Lane, SE NW NE sec. 27-32n-69w. Loc. (First report.)
John T. Coffee, Jr., No. 1 Mary Gaspar, NW NW SW sec. 25-32n-69w. Drlg. 163 ft.
Ainsworth Oil Co. No. 1 Marberger, NE SE NE sec. 34-32n-69w. Drlg. 320 ft.
Hail-Thornton et al No. 1 Roth, C NW SE sec. 13-32n-69w. S.D. 407 ft.
Wyoming Southern Oil Co. No. 1 Lane, C NW NE sec. 27-32n-69w. Spd. and S.D.
Elbe Oil Ld. & Dev. Co. No. 1 Benham, NW NE sec. 5-31-70w. M.I.M.
Tom Carney No. 1 Beaver, SE SE SW sec. 28-35n-68w. M.I.M.
New Era Fuel Co. No. 1 Jones, SE SE SE sec. 21-32n-69w. Spdg. 40 ft.

Chadron-Osage Oil Co. No. 1 State, SW cor. sec. 16-32n-69w. S.D. 4,040 ft.; for winter.
Wyoming-Southern Oil Co. No. 3 Salisbury, NE NE SE sec. 27-32n-69w. T.D. 603 ft.; (C.D.) U.R. 6⅝-in. to set on bttm.

Fremont County

Stanolind O. & G. Co. No. 1 Govt., C SE SE sec. 3-33n-96w. T.D. 2,890 ft.; cmtd. 13⅜-in. 2,779 ft.; drlg. plug.
Sinclair Wyoming Oil Co. No. 2-C Muskrat, NE SW SW sec. 1-33n-92w. T.D. 8,112 ft.; cutting and pulling D.P.
Consolidated Oil Properties No. 3, C SW SE sec. 16-1n-1w. Loc. for 2,200-ft. test on Sage Creek.
H. Kenyon Burch No. 1 Enos, CEL NE NE sec. 28-3n-1w, S.D.O. 970 ft.; no shows.
Ben Stewart No. 1 Darnell, NE SE sec. 26-3n-1w. T.D. 500 ft.; set 8¼-in. at 475 ft.

Hot Springs County

Italo Pet Corp. No. 1 Phebus-Govt., NW NW SW sec. 11-44n-98w. Drlg. 2,100 ft.
Oscar B. Grace No. 4 Govt., CNL SE NW sec. 21-43n-92w. T.D. 380 ft.; fsg. bailer.

Lincoln County

H. M. Eller et al No. 4 Govt., SE NW SW sec. 32-19n-116w. T.D. 401 ft.; will test S.O. in lenticular sd. at 397-401 ft.
Place Oil Co. No. 1 Davis, SE SE SE sec. 9-26n-11w. T.D. 1,228 ft.; set pipe on top sat. zone at 1,212 ft.; tstg.

Natrona County

Stanolind O. & G. Co. No. 11 Wyo. Asso.-Tensleep, C NE NW sec. 35-40n-79w. Drlg. 3,771 ft.
Stanolind O. & G. Co. No. 29 Wyo. Asso.-Tensleep, C SW SW sec. 26-40n-79w. Drlg. 2,429 ft.; first Wall Crk. at 1,018-1,134 ft.; second Wall Crk. 1,394-1,485 ft.
General Pet. Corp. No. 1 Govt., C NW SE sec. 21-35n-77w. Drlg. 2,260 ft.
Western Producers, Inc., No. 1 Gov't. NW SW SE sec. 5-39n-78w. res.; drlg. 745 ft.

Niobrara County

The Argo Oil Co. No. 4 Ford, an edge well in the Sundance horizon in the Lance Creek field, has shown an increase in production from the Minnelusa at 5,331-64 feet and at last reports was flowing by heads, making 100 to 150 bbls. per day. It is not yet a completion and may be acidized. It was a failure in the basal Sundance at 4,042-4,118 feet.

The Ohio Oil Co. No. 2 Taylor, NW NW SW section 3-35n-65w, a mile to the southeast of the nearest Sundance producer, which was drilled as a test of the Minnelusa, failed to encounter any oil or gas shows was plugged and abandoned at 6,216 feet, total depth. It topped the Minnelusa sand at 5,611 feet and encountered water. The top of the Madison was at 6,178 feet. Elevation is 4,407 feet.

The Continental Oil Co. No. 1 Leach, five miles northeast of the center of the field, is at a critical depth, but no information is being released as to formations drilled.

Continental Oil Co. No. 6-B Schuricht, SW SW SE sec. 6-35n-65w. Digging pits.
J. M. Huber Corp. No. 1 H. & M., NE NE NE sec. 8-35n-65w. W.O. rig.
J. M. Huber Corp. No. 1 Joss, NE SE NW sec. 6-35n-65w. T.D. 4,096 ft.; O.W.D.D.; M.I.R.
Ohio Oil Co. No. 9 Putnam, C NE NW sec. 4-35n-65w. T.D. 4,059 ft. in sd.; rng. 7-n. top basal Sundance 4,041 ft.
Lewis Goekel No. 1, NE SE NW sec. 31-35n-62e. Resumed drlg. 1,550 ft.
J. M. Huber Corp. No. 3 Joss, NE NE SW sec. 6-35n-65w. Drlg. 1,451 ft. in new hole.
Continental Oil Co. No. 3 Apex-1, SE SE NE sec. 34-36n-65w. Drlg. red sh. 5,250 ft.
W. A. Maupin et al No. 1 Berggren, NW sec. 23-35n-63w. Drlg. 180 ft.
J. M. Huber Corp. No. 1-A Lamb, NE SE SW sec. 27-36n-65w. Cg. 5,410 ft.
Continental Oil Co. No. 5-B Schuricht, C SW SW sec. 5-35n-65w. Drlg. by D.P. at 5,160 ft.
Ohio Oil Co. No. 2 Leo-O.P.C., NE NE SE sec. 35-36n-65w. R.U.R.
Ohio Oil Co. No. 1 Leo-O.P.C.-7, NW NW SE sec. 35-36n-65w. T.D. 5,641 ft.; to tst. on pump.
Continental Oil Co. No. 1 Leach, SW NE NE sec. 29-36n-64w. Drlg. 5,600 ft.
Argo Oil Co. No. 4 Ford, SW NW SE sec. 33-36n-65w. T.D. 6,016 ft.; P.B. to 5,414 ft.; tstg.
Continental Oil Co. No. 8 Otto Rohlff, SW SW SE sec. 31-36n-65w. Drlg. r.b. 4,300 ft.
MacKinnie Oil & Dev. Co. No. 2 Thompson, NW NW NE sec. 7-35n-65w. T.D. 4,064 ft.; C.O.

Park County

The Ohio Oil Co. No. 15 Woods O.P.C.-3, NW SE section 30-58n-99w, in the southern part of the Elk Basin field, two miles from the top, was completed as a gas well at 2,843 feet in the Dakota. Top was at 2,790 feet and it was still in sand when drilling stopped. It gauged 11,000,000 feet per day.

Resolute Oil Co. No. 1 Northern Pacific, C NE NW sec. 21-57n-101w. Drlg. Colo. sh. 6,685 ft.; C.D.
Resolute Oil Co. No. 1 Govt., C NE NE sec. 20-57n-101w. T.D. 8,585 ft.; W. O. swb. and line; Schlumberger test showed about same porosity as in No. 1 State.
Ohio Oil Co. No. 15 Woods-O.P.C.-3, NW SE sec. 30-58n-99w. T.D. 2,834 ft.; cmtd. 8⅝-in. on top Dakota at 2,790 ft.; show 2,000,000 ft. gas.

Platte County

Dividend O. & R. Co., Inc., No. 1 CSL NW SW sec. 17-24n-66. Drlg. 2,415 ft.; C.D.

Sublette County

Texas Co. No. 4-I, SW NE SW sec. 27-27n-113w. Spdg. 58 ft. (Cor. loc.)

Sweetwater County

Mountain Fuel Supply Co. No. 1 Hay, NE SE NW sec. 2-19n-110w. Rlg.; W.O.W.W.
Italo Pet. Corp. No. 1 Govt., SW SW SW sec. 36-13n-95w. S.D. 610 ft.
Sinclair-Wyoming Oil Co. No. 77, SE NE NE sec. 10-26n-90w. Drlg. Sh. 1,872 ft.
Mountain Fuel Supply Co. No. 1 Union Pacific, C SW SE sec. 13-17n-104w. Cmtd. 4¾-in. at 3,330 ft.
Mountain Fuel Supply Co. No. 1 Williams, C NE NE sec. 5-12n-95w. Drlg. 5,294 ft.; no O. or G. shows; salt W. in upper horizons.
Mountain Fuel Supply Co. No. 1 Union Pacific, C SE NE sec. 29-15n-104w, S. of Baxter Basin. Loc.

Uinta County

E. A. Ottman et al No. 1 Govt., C SE NW sec. 26-14n-110w. T.D. 1,010 ft.; top sd. 1,008 ft.; 100 ft. oil; prep. to run 10-in.

Weston County

Chas. Goodell et al No. 1 State, C NE NE sec. 23-44n-63w. Rdy. to spd.
John Brorphy No. 1 George, SW SE NW sec. 26-48n-64w. Drlg. 1,600 ft.
Sisty et al No. 1 Carmine, SE SW sec. 31-44n-62w. Drlg. 570 ft.
Le Faivre Oil Synd. No. 1 Martin, NW NW SW sec. 29-45n-68w. Drlg. 2,550 ft.; will U.R. 10-in. at 2,130 ft. for wtr. S.O.
Giles & Proutt No. 1 Gov't. CEL SW NE sec. 29-45n-61w. Spdg. 30 ft.

MONTANA

Big Horn County

E. L. Dana No. 1 Hardy, SW NW sec. 22-9s-35e. Drlg. 550 ft. with S.O. in sdy. sh.

Carbon County

R. C. Tarrant No. 2 Heare, NW SE NW sec. 14-6s-10e. Spdg. Cor. Loc.
Miracle Oil Co. No. 2, CWL NE SE sec. 3-6s-23e. Cmtd. 6¼-in. at 1,568 ft.; W.O.C.
Ohio Oil Co. No. 16 Kirt, C SE SE sec. 4-7s-21e. T.D. 5,976 ft.; dry in Lakota; P.B. to 8⅝-in. at 4,950 ft.; W.O. perforator.
Geo. Muth et al No. 1, CSL SE SE sec. 23-6s-23e. S.D. indef at 1,500 ft.
Henderson Prod. Co. No. 1-H-11 Elk 11, SE SE NW sec. 35-9s-23e. S.D. 1,626 ft. for 8¼-in.; top Frontier 1,608 ft.; small S.O.
Shaw-Wa Pet. Co. No. 1 Govt., SW SW NE sec. 35-9s-23e. Drlg. 130 ft. in 12½-in. hole.

Choteau County

Security Pet. Co. No. 1 Johnson, NE sec. 23-26n-3e. S.D. 1,690 ft.; (C.D.)

Cascade County

C. Leonard Smith No 1-A Smith-Schwingle, NE NE SW sec. 14-22n-2e. T.D. 750 ft.; fsg. tools.

Daniels County

White Tail O. & G. Co. No. 2 Wiley, NW NW NW sec. 10-36n-50e. Drlg. 1,498 ft.

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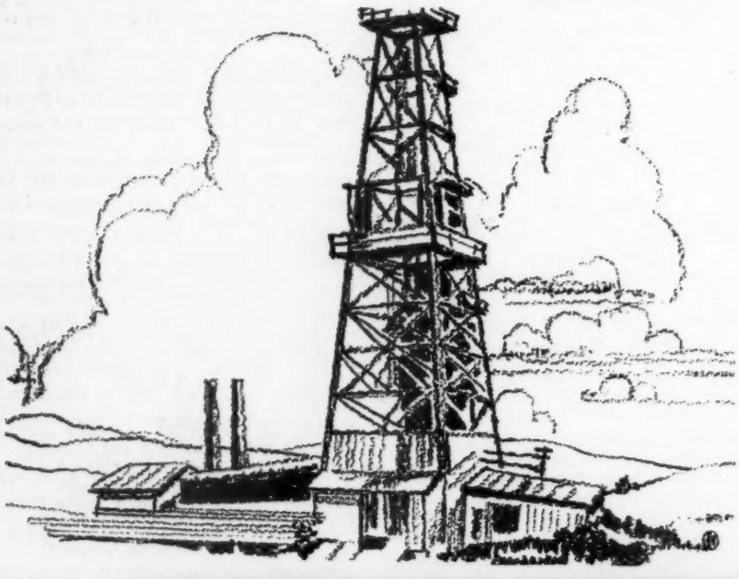

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Fallon County

Johnson-Burke No. 1 Govt., SE NE SE sec. 6-8n-79e. Drlg. 1,200 ft.

Fergus County

Lewistown Oil Co. No. 1 Parks, C NE NE sec. 13-15n-18e. S.D. 350 ft.

Sam Phillips No. 1 Brakke, NW SE SW sec. 14-15n-19e. Spdg.

White Top O. & G. Co. No. 1 Govt., C NE SW sec. 35-14n-19e. Drlg. 810 ft.

Glacier County

Active drilling wells in Cut Bank were down to five following three completions and no new operations.

Lawler-Hoerr's No. 2 Downen, SW SE SW section 9-33n-5w, an offset to No. 1 Downen, which had only a show and was abandoned, was completed at 2,917 feet as a flowing well, making 100 bbls. first 24 hours. It had an estimated flow of 2,500,000 feet of gas in the Sunburst at 2,825-32 feet and the 7-inch was cemented at 2,881 feet. Apparently the shutoff failed to hold and the gas came in with the oil in the Cut Bank at 2,875-2,915 feet. Elevation is 3,882 feet.

R. C. Tarrant's No. 6 Long-Miller, C SW NW section 24-34n-6w, had only a show in the Cut Bank at 2,830-57 feet and was plugged and abandoned.

The Glacier Production Co. No. 1 Forbes Unit, C SE NW section 4-34n-5w, was completed in the Cut Bank sand at 2,605-69 feet for 5,720,000 feet of gas. Total depth is 2,670 feet.

A. B. Cobb No. 1 State, C NE NE sec. 30-37n-4w. Drlg. 1,575 ft.; Colo. 430 ft.

Texas Co. No. 8 Tribal-122, CEL SW SE sec. 6-32n-5w. Drlg. 2,540 ft.

B. V. Hole No. 3 All.-124, SE SW SE sec. 1-32n-6w. T.D. 2,085 ft.; fshg.

Glacier Prod. Co. No. 3 Coburn, NE NE NW sec. 8-33n-5w. Drlg. 2,550 ft.

Drumheller Oil Trust No. 1 fee, C NE SW sec. 17-34n-6w. T.D. 3,015 ft.; drlg. up bailer.

A. R. Pardee No. 1 Anderson, C SE SW sec. 31-32n-5w. S.D. 2,900 ft.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15e. Drlg. 1,750 ft.

Lewis and Clark County

Lewis & Clark Oil Synd. No. 1 Lewis & Clark, NW NW SW sec. 11-18n-5w. Loc.; to go to 1,900 ft.

Lewis & Clark Oil Synd. No. 1 Pathfinder, CNL NW SE sec. 29-18n-4w. Loc.

Lewis & Clark Oil Synd. No. 1 Sacajawea, SE NE NE sec. 5-17n-4w. Loc.; prob. not drill this year.

Park County

Ben W. Ryan et al No. 1 Burgess, SE SW NW sec. 28-2s-11e. T.D. 1,012 ft. C.D.

Petroleum County

O. B. Canfield No. 2 Govt., SE SE NE sec. 21-17n-24e. Drlg. 80 ft.; 10-in. at 40 ft. (First report.)

Roosevelt County

John W. Schmidt et al No. 1 Freu, NW NW NE sec. 21-28n-50w. Drlg. 1,205 ft.; 5 3/16-in. at 1,090 ft.

Toole County

One completion, a dry hole, and four new operations were reported in the Kevin-Sunburst area.

Fred Munger's No. 1 Hagerty, SE NE SE section 14-35n-2w, had the contact at 1,454-1,505 feet and was plugged and abandoned when it failed to respond to acidization.

Hannah-Porter Co. No. 2 Benjamin, CWL SE SW sec. 18-33n-1w. Spdg. 50 ft.

56 Pet. Co. No. 1 Davidson, SE SE NW sec. 26-35n-4w. Drlg. 425 ft.

New Era Fuel Co. No. 2 Goeddertz, CWL SE SW sec. 12-35n-3w. Drlg. 900 ft.

Welch Bros. No. 2 Ward, SW SE NE sec. 29-35n-3w. Drlg. 125 ft.

Wm. McKnight No. 3 Gunderson, NE NE NW sec. 19-35n-2w. Drlg. 1,500 ft.

Big West Oil Co. No. 6 McDonald, SW SE SW sec. 19-35n-2w. Drlg. 1,320 ft.

Rice Oil Co. No. 2 Larson, SW NW NW sec. 18-35n-2w. Drlg. 1,350 ft.

Plotke & Rader No. 11 Fryberger, NW SE SE sec. 29-35n-3w. T.D. 1,500 ft.; rig burned down.

Wm. M. Fulton No. 2 Thompson, SW SE NW sec. 28-35n-3w. T.D. 1,565 ft.; stdg. 7-in. cmtd.

Hamilton & Hamilton No. 4 Reeg, SE SW SE sec. 14-35n-2w. Drlg. 450 ft.

Vander Pas & Montgomery No. 1 Thumm, NW SW NW sec. 33-35n-3w. T.D. 1,710 ft.; contact 1,695 ft.; stdg.

Guy Smith No. 1 Govt., C NE SE sec. 35-36n-3w. Spd. 10 ft. and S.D.

C. T. Olen No. 7 Engemoen, C NW NW sec. 14-35n-2w. T.D. 1,607 ft.; contact 1,591 ft.

C. L. Tomlinson No. 1 Davidson, NW NE SE sec. 28-35n-3w. S.D. 1,500 ft.

E. O. Reickhoff No. 3 Baum, SW SW SE sec. 3-35n-3w. S.D. 10 ft.

California Co. No. 7 Neumann, NW NW NE sec. 23-35n-2w. T.D. 1,525 ft.; prep. to acid.

McCurdy No. 1 Hollowell, C SE SW sec. 1-35n-3w. S.D. 1,565 ft.

Bryant Bros. No. 1 Lashbaugh, NE SW NW sec. 34-25n-2w. T.D. 850 ft.; R.U. heavier mach. to resume.

Outside Kevin-Sunburst

Model Oils, Inc., No. 1 Fey, NE SW sec. 5-37-3w. T.D. 2,600 ft.; fsg. tools.

Montana Gas Corp. No. 2 Clark, C SE SW sec. 24-37n-1w. Drlg. 1,765 ft.

Yellowstone County

Riverton Oil Co. No. 1 Fox, CEL NW NE sec. 14-2n-23e. T.D. 1,210 ft.; cmtd. 8¼-in. 1,209 ft.; W.O.C.

Broadview Dome Oil Co. No. 1, NE NE SW sec. 18-3n-23e. S.D. 3,030 ft. repairs.

Lauriel Oil Co. No. 1, C NW SW sec. 7-2s-24e. S.D. 150 ft.

NEBRASKA

Sioux County

J. M. Huber Corp. and United Producers, Inc., No. 1 Morgan, C SW SW sec. 32-35n-56e. S.D. 3,257 ft. r.b.

Jefferson County

L. R. Page et al No. 1 Bonham, C SE SE sec. 1-1n-1e. Drlg. 2,000 ft. in blue sh.; top Oswald L. 1,892 ft.

NORTH DAKOTA

Williams County

California Co. No. 1 Kamp, C NW NE sec. 3-154n-96w. R.U. after cmtg. surf. pipe.

UTAH

Daggett County

Mountain Fuel Supply Co. No. 1 Smith, C SW NE sec. 20-3n-24e. Drlg. 5,438 ft.

Grand County

Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22s-22e. S.D. 6,715 ft.; M.I., heavier rotary equip.

Columbia Crude Corp. No. 1 Rath, NW SW SE sec. 12-25s-20e. T.D. 2,265 ft.; prep. to resume to go to 3,000 ft.

Cane Creek Oil Co. No. 1 Govt., NW SW sec 31-26n-21e. S.D. 400 ft.

Kansas Fields

(Continued from Page 66)

In Chase County, California-Illinois-Kansas Oil Co. No. 1 Evans, SW SW NW section 11-22-9, was drilling below 500 feet.

In Ellsworth County, Phillips Petroleum Co. No. 6 Patzner, NW NW SW section 30-17-10w, was moving in material.

In Ness County, Continental Oil Co. No. 1 Olson, SW NW NW section 5-18-25w, was a location.

In Pratt County, Penn Drilling Co. and associates No. 1 Holland Estate, SW NW SE section 6-26-12w, was a rig.

In Scott County, Atlantic Refining Co. No. 3 Dague E half NE NW section 14-20-33w, was a location.

In Stevens County, Panhandle Eastern Pipe Line Co. No. 1 Light, C section 2-32-38w, was a location. Same company's No. 1 Zimmerman, C section 35-31-38w, was a location.

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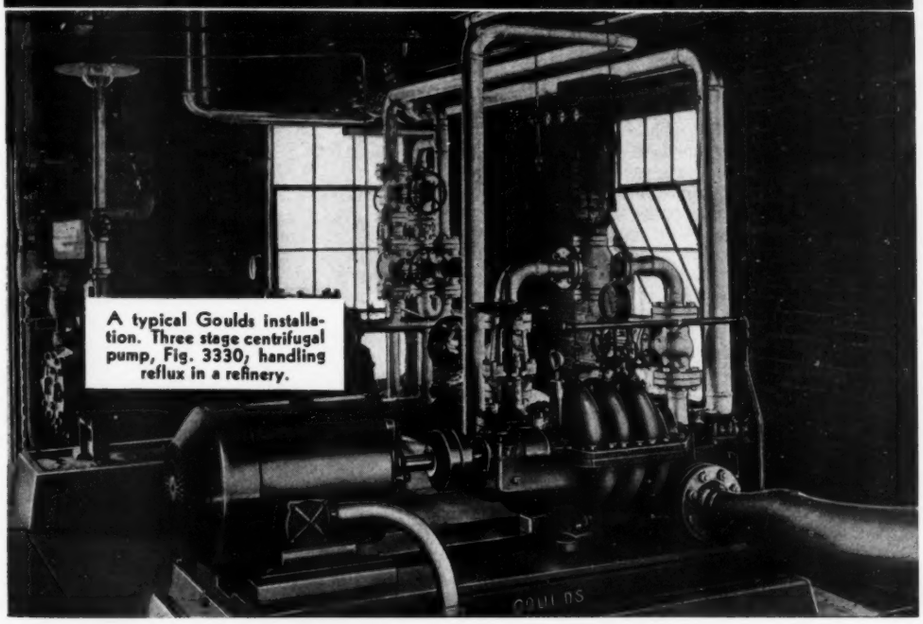

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Southwest Texas District

By
GEORGE WEBER

LOWER COAST NEW SANDS; FAULT ZONE HAS REAL FIND

HOUSTON, Tex., Nov. 1.—New producing sands continued to hold the spotlight in the Lower Coastal Belt of Southwest Texas during the past week, sharing it throughout the district with field extensions in the Lower Rio Grande Valley and with a new oil discovery in the Fault zone.

The latter discovery, a crevice gusher in Guadalupe County is reminiscent of the days of flush production in the nearby Darst Creek field. The latest of a number of new discoveries in the Austin chalk and Edwards lime in Guadalupe, Caldwell and Bastrop counties, the new strike will bring sustained development to the already very active area.

Nueces and Aransas counties shared attention of Lower Coastal operators with extensions and new sands in the McCampbell, Luby, Clara Driscoll and South Clara Driscoll fields. Another important move in that area is the staking of important wildcat tests along the southern coast in Kenedy and Kleberg counties.

Two new deep sands are producing in the McCampbell field of Aransas and San Patricio counties this week. Both are accredited to the Atlantic Refining Co. which is the major company developing the comparatively new field. The more important test, Atlantic Refining Co. No. 1-D Porterfield was last reported cleaning, making oil and wash water. The well is located in Lot 10, Block 13. Bottomed at 7,226 feet where 7-inch casing was set, the well is flowing through perforations made at 7,202-06 feet.

Still another new sand is producing in the field, located between the new 7,200-foot deep sand and the principal production of the field at 7,100 feet. The new sand, cored at 7,183-86 feet in Atlantic No. 4-B Porterfield is producing with no gauge yet reported. Both sands may have an important bearing on the future development of the field, possibly extending development to the east.

In the same field, Atlantic has a third important test in No. 1-C Porterfield, located in Lot 18, Block 12. The deep test, which is the first to explore the horizons below 8,000 feet is coring solid below 8,614 feet. No important shows have been reported, outside of a gas sand at 8,524-46 feet.

To the north and east, in the Lamar Prospect of Aransas County, Barnsdall Oil Co. is attempting to complete No. 1 Edwards for a producer. The test blew out several months ago bottomed at 7,996 feet. An offset test, No. 2 Edwards was completed a few weeks ago for the first producer in the field, making distillate from a 7,500-foot sand. The operators are repairing pumps after having set screen in the No. 1 for a test.

Luby Draws Attention

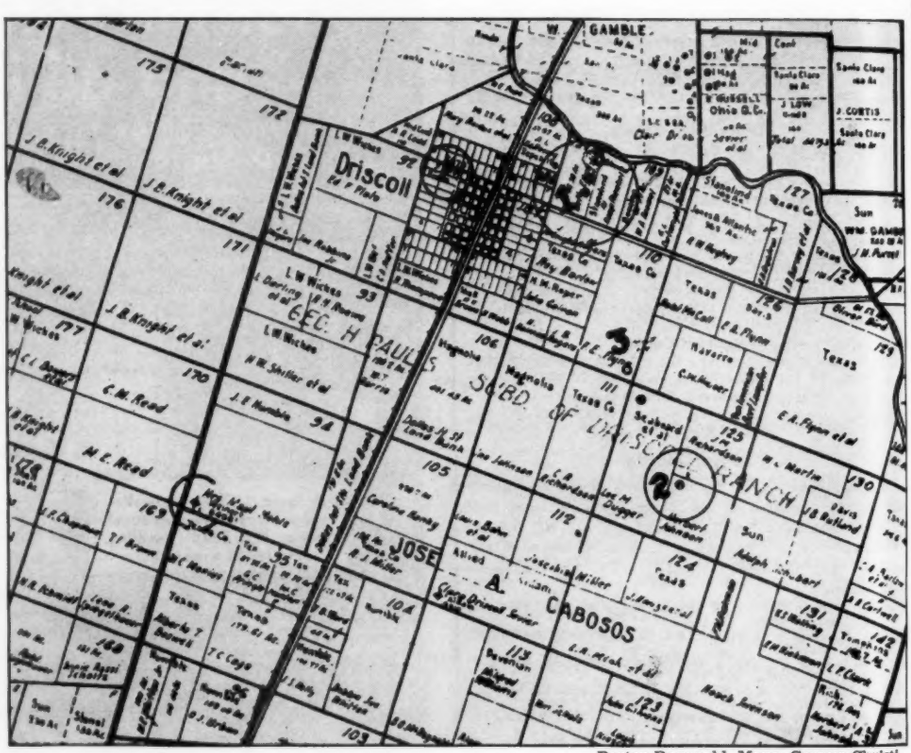
Three tests combined to make the Luby field of Nueces County the center of attention during the week. A mile extension to the north was proven by completion of the Seaboard Oil Corp. No. 1 John M. Luby. That outpost test, located in Block 1 of Share 4 in the Luby Subdivision cored oil sand at 5,072-77½ feet. Seven-inch casing was set at a total depth of 5,079 feet and perforations were made at 5,071-74½ feet. The well came in making an initial production of 139.24 bbls. per day on a one-eighth inch choke with tubing pressure of 800 pounds and casing pressure 1,050 pounds.

In the southern section of the field, the Stanolind Oil & Gas Co. turned what appeared to be a failure into a producer in a new sand for the field. The No. 3 McCann, which failed in the regular 5,050-foot sand of the field, was plugged back and perforated at 4,240-50 feet. The shallow sand had been cored in previous tests in the field, but this is the first to produce from it. Initial gauge on the No. 3 McCann is 124 bbls. per day on a one-eighth inch choke with tubing pressure of 920 pounds and casing pressure of 800 pounds.

A third test in the field drew attention during the past week as it came in making dry gas in the regular field sand. The Seaboard Oil Corp. No. 4 Luby, bottomed at 5,057 feet set casing and perforated at 5,052-55 feet, and made dry gas. Operators went back into the hole, and cored to a new total depth of 5,063 feet in oil sand. A drill stem test made from 5,043-63 feet showed recovery of 300 feet of oil and no water in 15 minutes at a working pressure of 400 pounds.

Clara Driscoll Field

A new producing sand is indicated for the Clara Driscoll field, located in the southwest section of Nueces County. The O. W. Killam No. 5 Elick, in the southwest section of the field, has cored an oil sand at 4,648-54 feet. On a drill stem test made at 4,650-54 feet, 1,000 feet of oil was recovered in 12 minutes at a working pressure of 55 pounds. The oil has a gravity of 31.6 degrees. Seven-inch casing has been set at the total depth of 4,690 feet and operators are waiting for a production test to be made early in the week.



Porter Regenold, Maps, Corpus Christi

The Clara Driscoll field of western Nueces County has a new producing sand (1) discovered by O. W. Killam in No. 5 Elick. To the southeast, Mills Bennett Production Co. No. 1 Johnson cored sand with a show of oil (2) at 4,800 feet, and the South Clara Driscoll field (3) is being extended slightly to the northwest by completion of the Sun Oil Co. No. 1 Flynn

In the same field, the same operator's No. 4 Elick was brought in producing oil and salt water from one of the field's regular sands at 3,901-06½ feet.

To the south and east, in the South Clara Driscoll field, the Sun Oil Co. is reworking No. 1 Flynn for a northwest extension to the one-well field. More than a mile to the southeast, a wildcat drilled by the Mills Bennett Production Co. on the Johnson lease, cores a gas sand at 4,791-96 feet and sand at 4,796-4,801 feet with an odor of oil and gas. Attempted tests in the horizon failed and operators are coring below 5,090 feet.

Along the Lower Gulf Coast, a number of interesting wildcats are getting under way. In San Patricio County, the Gregory area is again to be tested. The district in the vicinity of that town has been actively wildcatted for the past year, without success, but operators continue to have faith in its potentialities. A. L. Bob has staked location for No. 2 Green, a 9,000-foot test to be drilled 4,550 feet south of No. 1 in the Williamson Survey 2½ miles southeast of Gregory. Danray Oil Co. is associated in the wildcat. Rutherford Oil Corp. will drill No. 1 George, located between the towns of Taft and Sinton, near the Midway field.

An area which has seen much leasing activity and exploration during the year is to get its first test, as the Superior Oil Co. spuds in on No. 1 Koch. The wildcat is located in section 32, Block 26 of the Koch first subdivision of the Riviera lands. The Riviera district in southern Kleberg County is considered by many to be good prospective oil territory, and the wildcat will be watched with more than usual interest.

Further down the coast, in Kenedy County, and near the Willacy County line, another important test is getting under way. The La Sal Vieja Oil Corp. is rigging up on No. 1 Garcia Land & Cattle Co. in Tract 73, of Block 95, 7 miles northwest of Raymondville and about the same distance north of the Shell Petroleum Corp.'s La Sal Vieja field.

(Continued on Page 76)

California Field Report

By L. P. STOCKMAN

POSSIBILITIES OF NEW POOLS, RIO BRAVO AND ARVIN AREAS

LOS ANGELES, Calif., Nov. 1.—The productive possibilities of the Rio Bravo area, where Union Oil Co. has a promising wildcat, and the Arvin district where General Petroleum Corp. has been prospecting for several years, are expected to be determined within another fortnight. Union Oil Co., which apparently missed the Stevens sand in No. 1-34 Kern County Land in the Rio Bravo district, but picked up the Vedder sand, is making preparations to conduct a production test within a few days. This well, in section 34-28-25, is bottomed in an oil sand at 11,302 feet and is being finished with a combination liner of aluminum construction. This is being done by cementing a blank aluminum liner above the oil sand and then running in another perforated aluminum liner of smaller diameter for use in the bottom of the hole opposite the oil sand. This test is a few miles northwest of the Greeley field of Kern County, where Standard Oil Co. has completed a number of large flowing wells.

In the Arvin district, extreme southern end of San Joaquin basin and southeast of the Edison and Mountain View fields, General Petroleum Corp. recently made a formation test in No. 1 Houchin bottomed at 7,354 feet, and the well flowed at the rate of 290 bbls. of 29.8 gravity oil per day through 32/64-inch bean. It is the intention to re-enter the hole and drill ahead before concluding drilling operations. General Petroleum pioneered this area almost two years ago, and No. 1 Houchin in section 27-31-29 is the company's third wildcat. Both of the first two tests showed indications of a possible commercial accumulation but neither was found commercially productive. Mohawk Petroleum Co. drilled a duster in the Arvin district about two years ago and has not undertaken any additional work since. Superior Oil Co. got interested in the Arvin district when General Petroleum Corp. started prospecting work but did not begin actual drilling operations, although the company went so far as to erect a new steel derrick. Potentially productive acreage in the new Arvin district is held by General Petroleum Corp., Superior Oil Co. and the Texas Co. and normal development is anticipated if a new field is ultimately discovered as the acreage is all held in large blocks.

Wilmington

The Long Beach Harbor Commission, which is in direct charge of projected development of acreage in the Long Beach section of the Wilmington field, approved the necessary preliminary forms and will begin accepting requests for drilling permits in a few days. Ordinance No. 22 lifts existing drilling restrictions on November 11, 1937, and judging by the number of locations staked at lease 25 wells should start within a few weeks after restrictions are lifted. General Petroleum Corp., Superior Oil Co., Union Pacific Railroad, Bankline Oil Co. and other operators are building roads across the district and preparing ground work for rig bases. General Petroleum Corp. completed two good wells in the past week when No. 5-A Ford was brought in flowing 2,566 bbls. of clean 28.6 gravity oil per day and No. 6-A Isco flowing 1,098 bbls. of relatively clean 16.4 gravity oil daily. The former was bottomed at 4,090 feet and the well is flowing through a 72/64-inch bean under a tubing pressure of 180 pounds and a casing pressure of 760 pounds. No. 6-A Isco, flowing through a 48/64-inch bean under a tubing pressure of 90 pounds and a casing pressure of 600 pounds, was bottomed at 3,575 feet and finished with an 8⅝-inch perforated string carrying perforations at 2,621-3,033 feet and at 3,111-3,575 feet.

The Wilmington field although it has yielded excellent flowing wells from time to time is showing an abnormally high decline and thus nature has solved an important problem. When lifting drilling restrictions in the eastern end of the field, the Long Beach Harbor Commissioners prohibited erection of any natural gasoline plants. This action will prevent erection of any more plants because of the decline in production in the town lot area and the prohibition regarding work in the eastern end of the structure. General Petroleum Corp. has the largest natural gasoline plant in the harbor area, and in addition to contracting to handle future gas production in the new harbor area has agreed to process natural gas from all 27 wells of Bankline Oil Co.

Union Pacific Railroad Co. successfully completed No. 40 but it only proved a small well good for 150 bbls. of 16.3 gravity oil per day on the beam from 3,390 feet. The hole was finished with a combination liner including 717 feet of 8⅝-inch, with perforations at 2,706-2,736 feet, 2,776-3,026 feet and 3,066-3,201 feet, and 181 feet of 6⅝-inch liner including 120 feet of perforated, landed on bottom. The upper liner was cemented through perforations at 2,698 feet and the 6⅝-inch was cemented through perforations at 3,268 feet. Bankline Oil Co. No. 9 D. H. C., north and west of Anaheim and McDonough streets, was completed pumping 190 bbls. of 18.1 gravity oil cutting 4 per cent daily from 3,424 feet, finished with 326 feet of 6⅝-inch liner including 320 feet of perforated landed at 3,411 feet. Royalty Service Corp. is still working with its deep test, No. 842-2 Gilmore, but has not been able to develop clean production. Bottomed at 5,775 feet, with a plug at 5,747 feet, the well is making 245 bbls. daily of 25.4 gravity oil, cutting 16 per cent.

Long Beach

In the northwest end of the Long Beach field, Union Oil Co. and Hilldon Oil Co. completed their respective wells in the new productive area located west of the original northwestern or Los Cerritos section of the field and tentative plans call for additional development, although the failure of the wells to come up to expectations will retard drilling. Union Oil Co. No. 1 Oil Operators located in the settling channel of the Long Beach Waste Water Disposal System was brought in flowing 369 bbls. of clean 24.1 gravity oil per day through a 58/64-inch bean from 4,155 feet after the hole had been finished with a 6⅝-inch liner carrying 47 feet of 120 mesh screen. This well died a few days after completion and preparations are being made to put it on the beam. Hilldon Oil Co. No. 3 Flood Control also died following completion at 4,020 feet. It is the third successful completion in this restricted area, discovered less than a year ago by Hilldon Oil Co. and was brought in flowing 550 bbls. per day through a 58/64-inch bean but a pumping unit is being installed as it does not seem to have the necessary kick to remain on steady production. Lack of gas pressure is a characteristic of this area and even the discovery well only showed a daily production of 500,000 feet of gas in addition to the oil produced. In the older section of the Long Beach field Exeter Oil Co. completed No. 5 Transport, a new well, pumping 22 bbls. of relatively clean 23.5 gravity oil daily from 3,064 feet.

Santa Maria Valley

Union Oil Co. in the Santa Maria Valley field, completed No. 4 Vincent, flowing 1,958 bbls. of clean 15.9 gravity oil per day from 4,373 feet after the hole had been finished with 1,497 feet of 6⅝-inch liner including perforations at 2,909-3,925 feet and at 4,050-4,373 feet. This is the same lease on which Union Oil Co. brought in No. 3 Vincent a few months ago flowing 3,700 bbls. per day and No. 4 Vincent is the third large flowing well on the property. No. 2 Vincent originally completed at a comparatively shallow depth, has been deepened to 4,064 feet but subsequently plugged back to 3,405 feet and the hole finished with 764 feet of 6⅝-inch liner preparatory to an early production test. Drilling crews from Union No. 4 Vincent have been moved to No. 3 Russell the company's fourth project in the west side extension of the field and preparations are under way for an early spud. No. 3 Russell is one location south of No. 2 Russell the first flowing well in this area which came in flowing 1,089 bbls. of relatively clean 17.3 gravity oil a few months ago. Southwest of the Russell property Union Oil Co. has No. 1 Vicente partially rigged up and is expected to begin actual drilling operations within another few weeks.

Pacific Western Oil Co. completed a good well on the Del Parto property when No. 1 in section 27-10-34 was brought in flowing 770 bbls. of clean 16.3 grav-

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	October 21		October 14			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic:						
Crude oil	.....	.....	.....	.....	129,788	.....
Diesel and gas oil	.....	.....	.....	.....	176,726	151,541
Gasoline	91,731	13,104	.....	.....	3,543,514	5,295,506
Kerosene	.....	.....	.....	.....	328,907	968,157
Foreign exports:						
Crude oil	302,851	43,264	419,162	59,880	12,276,574	7,704,004
Fuel oil	339,482	48,497	237,091	33,870	11,823,157	8,585,964
Diesel and gas oil	232,393	31,770	73,727	10,532	6,318,016	4,789,248
Gasoline	104,136	14,891	.....	.....	6,640,287	6,304,573
Kerosene	91,981	13,140	.....	.....	1,967,922	1,265,918
Lubricants	.....	.....	.....	.....	12,984	.....
Other unfinished oil	.....	.....	64,633	9,238	974,785	155,253
Coastwise-domestic:						
Crude oil	314,893	44,985	178,941	25,563	4,496,888	5,784,330
Fuel oil	331,687	47,384	152,384	21,769	12,586,372	8,649,597
Diesel and gas oil	90,451	12,922	4,429	633	1,885,609	938,995
Gasoline	431,571	61,653	251,391	35,913	12,844,355	10,089,097
Kerosene	2,165	309	4,274	611	319,564	143,305

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	69,398	9,914	.....	.....	222,330	72,370
Gasoline	.....	.....	.....	.....	25,778	285,959
Kerosene	.....	.....	.....	.....	72,750	.....
Asphalt	.....	.....	62,491	8,927	413,885	327,418
Lubricants	.....	.....	.....	.....	25,522	43,543
Foreign exports:						
Crude oil	248,278	35,468	75,980	10,854	2,707,852	2,721,912
Fuel oil	.....	.....	20,810	2,973	1,758,156	2,242,516
Diesel and gas oil	58,703	8,386	15,036	2,148	2,531,223	1,578,338
Gasoline	81,495	11,642	110,198	15,743	4,390,310	3,255,379
Kerosene	35,345	5,049	.....	.....	823,159	560,758
Lubricants	15,796	2,257	1,945	278	474,494	323,140
Other unfinished oil	.....	.....	.....	.....	.....	90,923
Coastwise-domestic:						
Fuel oil	78,059	11,151	74,268	10,610	5,279,149	5,335,109
Diesel and gas oil	50,177	7,168	39,414	5,631	1,136,698	579,776
Gasoline	183,835	26,262	208,787	29,541	4,482,809	4,226,227
Kerosene	.....	.....	.....	.....	250,432	175,284

ity oil per day from 4,431 feet. It topped the Franciscan basement at 4,404 feet and was finished with a 7-inch liner. This completion has greatly stimulated interest in the immediate neighborhood, and Navy Oil Co., Signal Oil Co., George F. Getty, Inc., Dougan Oil Co. and a number of other operators have already started work. No. 2 Union Sugar of E. H. Moore, Inc., in section 19-10-34 completed last week is at present flowing 431 bbls. of 16.5 gravity oil and 100,000 feet of natural gas per day from 5,103 feet. The natural gas has a theoretical gasoline content of 2.9 gallons per 1,000 feet of gas, but production of crude oil was still showing a rather high cut at last reports. This is not considered especially discouraging as it indicates that clean production may be anticipated nearby. Three additional wells have been started on the Union Sugar property by E. H. Moore, Inc., and this trio should reveal the potential possibilities of sections 20, 24 and 25.

Greeley-Ten Section

Standard Oil Co., discoverer of the Greeley field of Kern County, has apparently decided not to let any grass grow on its Kern County Land Co. acreage adjacent to Superior Oil Co. No. 9 Kern County Land which was completed a week or so ago flowing 853 bbls. of clean 36 gravity oil daily from 7,870 feet as the company has staked location for two offsets to No. 1 Krause which Superior Oil Co. is starting in section 21-29-26. Standard's offsets will be No. 11-12 Kern County Land in section 21-29-26, a west offset to No. 1 Krause, and No. 12-3 Kern County Land in section 16-29-26, a north offset. It will not be known for another several months whether Superior Oil Co.'s new well is an outpost in the Greeley field or a discovery well in a new field. It is located about three miles southeast of nearest production in the Greeley field and would therefore seem to be a new productive area. Superior No. 9 Kern County Land sanded up subsequent to completion and is now producing on a compressor, due to lack of pressure.

San Joaquin Basin

In the Fruitvale field which it discovered several years ago Western Gulf Oil Co. completed No. 28-B Kern County Land in section 14-29-27 pumping 235 bbls. of 18.4 gravity oil cutting 6 per cent daily from the shallow zone at 3,058 feet. This new well was finished with an 8⅝-inch water string landed at 3,019 feet and 67 feet of 6⅝-inch liner including 45 feet of 250 mesh screen landed at 3,056 feet. In the Mountain View field, Ohio Oil Co. completed No. 6-A Derby in section 33-30-29, pumping 124 bbls. of 27.4 gravity oil daily from 5,292 feet after the hole had been finished with 152 feet of 4½-inch liner including 120 feet of 120 mesh screen landed at 5,290 feet. Union Oil Co. which is cleaning up a lot of odd jobs in the Mountain View field preparatory to quitclaiming all of its holdings has just abandoned No. 1-A Kern County Land at 5,787 feet as no longer commercially productive and should have the cement plug in No. 5-A Kern County Land within another day or two. This will leave Union Oil Co. with about three wells and they are scheduled to be abandoned in the near future. Production of the Mountain View field has shown an abnormally high decline which is in direct contrast with other San Joaquin Basin fields.

Round Mountain

In the Coffee Canyon district of the Round Mountain field of Kern County, California Western Oil Co. completed No. 6 in section 12-28-28 pumping 420 bbls. of very clean 14.7 gravity oil daily from 1,778 feet. This well was finished with 57 feet of 6⅝-inch liner, including 47 feet of 80 mesh screen landed on bottom. In the older section of the Round Mountain field, Honolulu Oil Corp. completed No. 75 in section 18-28-29, pumping 314 bbls. of very clean 17.5-gravity oil per day from 1,875 feet. It was finished with an 8⅝-inch water string landed at 1,810 feet and 91 feet of 7-inch liner including 64 feet of perforated landed at 1,874 feet. In the productive area discovered several months ago about 1 mile east of the original productive area of the Round Mountain field, Eastmont Oil Co. completed No. 4 Olcese in section 16-28-29 pumping 251 bbls. of 16.8-gravity oil, cutting 10 per cent. This new well was finished with a 8⅝-inch water string cemented at 1,735 feet and 94 feet of 6⅝-inch liner including 46 feet of 80 mesh screen landed on bottom.

Midway-Sunset

Two new wells were completed in the Midway-Sunset field of Kern County and both registered normal production. The Texas Co. No. 26 in section 32-32-24 was completed, pumping 330 bbls. of relatively clean 22.8 gravity oil daily from 3,249 feet after the hole had been finished with 196 feet of 6⅝-inch liner including 114 feet of perforated landed at 3,240 feet. Chanslor Canfield Midway Oil Co. completed No. 45 in section 21-32-23 and it showed an initial production of 198 bbls. Output is cutting 14 per cent and the company may find it advantageous to re-enter the hole and undertake remedial work. Standard Oil Co. well No. 3-13-D in section 13-32-24 completed on the beam last week began flowing within a short time after completion and established a potential of 2,225 bbls. daily along with 1,000,000 feet of natural gas. In the Mount Poso field of Kern County, Union Oil Co. completed No. 2-B Tribe in section 28-27-28, pumping 184 bbls. daily from 1,939 feet after the hole had been finished with 80 feet of 6⅝-inch liner including 39 feet of 120 mesh screen. In the Ventura Avenue field Shell Oil Co. has completed No. 90 Taylor flowing 1,291 bbls. of clean 21.3 gravity oil and 782,000 feet of natural gas per day from 7,465 feet.

Kettleman Hills

In the Kettleman Middle Dome field Temblor Oil Co. No. 1 Bunting in section 25-23-18 is showing considerable gas at 8,467 feet and the crew has been obliged to use 100-pound mud to maintain circulation and keep gas pressure under control. This gas seems to be coming from the bottom of the hole and not from the minor showing logged higher up. This well may still be a long distance from extending the limits of production in the Kettleman Middle Dome but at the same time it may bear watching during the next few weeks. In the Kettleman North Dome, Kenda's deep test, No. 4-18-J in section 18-21-17, is going ahead at 11,583 feet in what looks like Cretaceous. Superior Oil Co. is expected to pick up the Eocene in No. 5 Huffman within ten days, as this well is nearing the 10,000 foot level.

Southwest Texas Fields

(Continued from Page 74)

A short eastward extension of 3,000 feet is indicated in the La Blanca pool of eastern Hidalgo County in the Lower Rio Grande Valley sector. The Dee Davenport No. 1 Hidalgo Water Improvement District has perforated casing in sand at 7,880-7,914 feet and is washing for completion.

Important Discovery

Very keen interest in the Fault Line Zone was centered this week on the wildcat Carver & Ellison No. 1 Rumpf. The test is located 2½ miles southeast of the Darst Creek field, and shows indications of duplicating the production of some of the larger wells of that field. Running about 350 feet higher than other tests drilled in the area, the No. 1 Rumpf attempted to blow out several days ago at a total depth of 2,585 feet. Seven-inch casing was set at 2,471 feet and the test started flowing oil October 24 at the rate of 2,000 bbls. per day through open 2-inch tubing. It was shut in, and again flowed three days later at the rate of 22 bbls. per hour on a quarter-inch choke. Casing and tubing pressures on the latter test were recorded at 340 pounds. The well is bottomed in what is believed to be a crevice in the Taylor. The oil shows a gravity of 29.1, comprising over 20 per cent of gasoline, and considerable sulfur.

The name Frio Town has been given the field discovered in northwest Frio County by Pagenkopf and Jamieson. Although not yet on commercial production, the discovery well, No. 1 Houston Estate, is showing for an Austin chalk field making 32.4-gravity oil.

Oklahoma Fields

(Continued from Page 68)

In Payne County, Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Friedemann Community, SE cor. section 28-19-3e, was drilling at 4,340 feet.

In Noble County, Continental Oil Co. No. 2 Conway A, NE NE SW section 16-23-2w, was digging cellar.

In Kiowa County, R. H. Burns and others No. 3 Webster, NE cor. section 2-6-17w, was drilling at 285 feet.

In Tillman County, Indian Territory Illuminating Oil Co. No. 1 Dickey, NE SE NW section 1-3s-19w, was a location.

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.
Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier E. Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Orcutt*
14-14.9	$ .80	$ .79	$ .74	$ .78	$ .79	$ .80	$ .76	....	....	....	$ .80	$ .76	$ .76	$ .77	$ .78	....	....	$ .70	$ .70	$ .70	....	....	$ .70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	$ .70
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$ .70	.74	.74	.71	$ .70	....	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.82	.77	.80	....	.70	.78	.78	.72	.70	....	.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	....	.91	.80	.85	.77	.84	$ .78	.73	.82	.82	.74	.70	....	.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	....	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$ .84	$ .79	....	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	....	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79	....	.87	.88
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	....	1.02	.95	....	.89	.99	.86	.88	1.01	.98	.90	.83	....	.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	1.06	1.02	....	....	....	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	....	1.02	....	.96	1.06	.95	.95	1.10	1.06	....	....	....	.95	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	1.15	1.10	....	....	....	.97	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	1.03	1.02	1.20	1.14	....	....	....	.99	....
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	1.25	1.18	....	....	....	1.01	....
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	1.29	....	....	....	....	....	....
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.13	1 34	....	....	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.28	....	....	....	1.18	1.28	1.20	1.17	1 38	....	....	....	$1.19	....	....
34-34.9	....	....	....	....	....	....	....	1.37	....	1 32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	1.23	....	....
35-35.9	....	....	....	....	....	....	....	1.42	....	1 35	....	....	....	1.25	....	1.29	....	....	....	....	....	1.27	....	....
36-36.9	....	....	....	....	....	....	....	1.46	....	1 39	....	....	....	1.29	....	1.33	....	....	....	....	....	1.31	....	....
37-37.9	....	....	....	....	....	....	....	1.51	....	1 43	....	....	....	1.32	....	1.37	....	....	....	....	....	1.35	....	....
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	1.39	....	....
39-39.9	....	....	....	....	....	....	....	1 61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	1.43	....	....
40-40.9	....	....	....	....	....	....	....	1 66	....	....	....	....	....	1 43	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over. By Standard Oil Co., effective October 15: El Segundo, 14 to 18.9 degrees, 80 cents; 19-19.9, 82 cents; 20-20.9, 85 cents; 21-21.9, 88 cents; 22-22.9, 92 cents; 23-23.9, 95 cents; 24-24.9, 99 cents; 25-25.9, $1.03; 26-26.9, $1.06; 27-27.9, $1.10; 28-28.9, $1.14; 29-29.9, $1.17; 30-30.9, $1.21. Wilmington, 14 to 16.9, 75 cents; 17-17.9, 77 cents 18-18.9, 79 cents; from 19 degrees upward, prices same as Signal Hill.

North Louisiana, Arkansas

ARKANSAS BOARD BLIND TO RODESSA'S STEADY DECLINE

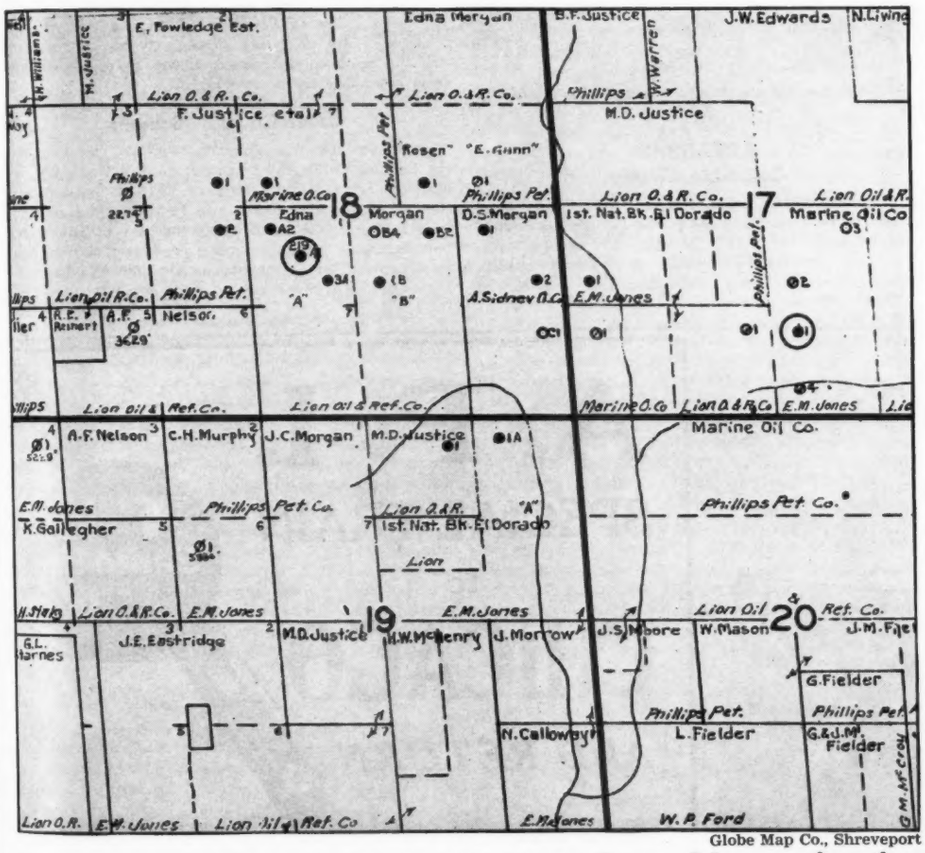
By MITCHELL TUCKER

SHREVEPORT, La., Nov. 1.—Changes in the daily allowable of the Rodessa field for the month of November constituted the most important development of the week.

Following a special hearing before the Arkansas Board of Conservation in El Dorado, Ark., on October 22, a top allowable for the 30 oil producing wells on that side of the field was placed at 10,000 bbls. per day for November. The ruling of the board placed the allocation of this field allowable to individual wells upon a basis of 50 per cent acreage and 50 per cent bottom-hole pressure, and further providing that fered a per well average cut from 79 to 60 bbls. per day when the total field allowable was cut from 28,053 bbls. in October to 21,000 bbls. in November. At the present time gas-oil ratio tests are being taken of all wells in this portion of the field, and it is expected that as a result, a good many wells now classified as oil wells will be reclassified as gassers due to their present high ratios.

The Louisiana Department of Conservation did not change the top allowable for that portion of the Rodessa field in November, leaving it at the previous figure of 50,000 bbls. However, this portion of the were voiding about 419,000 bbls. of space daily in the form of gas withdrawals, while the 227 oil wells from the same horizon further down dip from the point of gas-oil contact were voiding 152,000 bbls. of space in the form of gas produced with the oil, and about 30,000 bbls. of space in the form of oil. In other words, the 56 gas wells as classified are voiding about twice the volumetric space from the same reservoir as the 227 oil wells, and there are about four times the number of oil wells as there are gas wells.

Louisiana Commissioner of Conservation William G. Rankin has called a formal hearing on this pending change in Rodessa allocation to a volumetric basis, to be held in Shreveport on Monday, November 8. At this time the commission will also hear evidence on other points which field operators care to bring into the picture. Such matters as complete separation of all producing horizons, excluding input gas from gas allowables and gas-oil ratios, raising oil-gas ratios in the Young horizon, and the adoption of volumetric ratios for the setting of allowables.



Globe Map Co., Shreveport

Ten wells are now drilling in the Schuler field of Union County, Arkansas, where three separate producing zones have been opened. Present drilling is to the 7,600-foot level in the basal Travis Peak, or the 7,700-foot zone in the Upper Permian lime

withdrawal from any one well shall not exceed 400 bbls. per day. As in Louisiana and Texas, a gas limit factor of 2,000 feet of gas per barrel of oil was also placed upon Arkansas producers. The new order from Arkansas places the three-state field under practically the same type of proration, although the per well allowables will be about five times greater than the allowable in either Louisiana or Texas. Considerable opposition has been heard from organized land and royalty owners in this portion of the field regarding the newly invoked proration of Miller County, Arkansas, production. It is reported that the authority of the Arkansas board to prorate oil production may be questioned in court proceedings soon.

The 356 oil producing wells on the Texas side of the Rodessa field, both Cass and Marion counties, suffield is prorating itself below that point, as at no time during the last 60 days has the field been able to make its allowable. For the last seven-day period the 414 oil producers on the Louisiana side produced only an average of 45,219 bbls. per day.

May Change Plan

A movement is now under way to change the manner of allocating production at Rodessa and place it upon a volumetric withdrawal basis. Some advocate considering only gas and oil, while others offer reasons for including oil, water and gas in the volumetric calculations. At a special hearing before the Louisiana commission in Shreveport on October 29, it was brought out that the 51 gas wells in the Young sand horizon of the Caddo Parish, Louisiana, portion of Rodessa,

Rodessa Salt Water

In the entire Rodessa field 190 wells are making water. This represents about one-fourth of the 800 oil producers now in the field. One well in Arkansas, 137 in Louisiana and 52 in Texas, are the water producers. Volumes range from .2 per cent to 95 per cent of total fluid produced. The great majority of this salt water is appearing in the form of edge encroachment down-dip along the northern flank of the faulted anticlinal structure.

Rodessa, Arkansas, Completions

F. W. Burford No. 1-F A. A. Capps, section 12-20-28, flowed 25 bbls. hourly through half-inch tubing choke after a 3,000-gallon acid charge, total depth 6,080 feet. The same operator's No. 1 A. J. Cross, section 11-20-28, flowed 65 bbls. hourly through 1-inch tubing choke on initial test, total depth 6,120 feet.

H. L. Hunt No. 3 Womack, NW SW SE section 10-20-28, flowed 20 bbls. hourly through half-inch tubing choke, total depth 6,086 feet.

McClanahan and others No. 1 J. P. Greer, SE SW NW section 11-20-28, flowed 15 bbls. hourly through 1-inch tubing choke, casing pressure 250 pounds, total depth 6,195 feet.

Rodessa, Texas, Completions

Union Production Co. No. 1 fee 575, H. Holbert Survey, flowed 58 bbls. daily through quarter-inch tubing choke, total depth 6,070 feet.

In the Lodi area of Marion County, Arkansas-Louisiana Gas Co. No. 2 Emma Ford, A. D. S. Coy Survey, flowed 196 bbls. in 12 hours on initial test through quarter-inch tubing choke, total depth 6,156 feet. Their No. 1 Wade Houston, same survey, flowed 520 bbls. daily through quarter-inch tubing choke, total depth 6,125 feet.

Holcomb & Thomasson No. 1 Gray-Taylor, A. D. S. Coy Survey, flowed 40 bbls. hourly through quarter-inch tubing choke, total depth 6,094 feet.

LOUISIANA

Bossier Parish

In the Sligo gas field, Arkansas-Louisiana Gas Co. No. 4 R. O. Roy, NW section 18-17-11, gauged 40,000,000 feet of gas, rock pressure 2,200 pounds, total depth 5,028 feet.

Caddo Parish

Louisiana Oil Producing Co. No. 1-D Muslow, section 5-20-15, in the old Caddo-Pine Island field, pumped 20 bbls. daily on initial test, total depth 2,179 feet.

In the same area, Stanolind Oil & Gas Co. No. 129

Dillon, NW section 13-21-15, pumped 9 bbls. daily after a 1,000-gallon acid charge, total depth 1,665 feet.

Claiborne Parish

In the Sugar Creek field, Lyons & Neely No. 1 Simms, NE NE section 32-20-5, failed to encounter the oil saturation expected in the Upper Travis Peak, and has been abandoned as dry, total depth 5,928 feet.

Harry Hanbury No. 2-D E. Vaughn, N half SW SW section 30-21-4, in the Lisbon field, flowed 417 bbls. in seven hour through three-fourths inch tubing choke, tubing pressure 300 pounds, total depth 5,188 feet.

C. R. Schuster No. 3 Patton Estate, N half NE NE section 1-20-5, has been junked and abandoned after dropping pipe, total depth 5,377 feet.

As a 2½-mile westward extension of Lisbon production from the Pettit lime, Shreveport Oil & Gas Co. No. 1 Edwards, NE section 16-20-5w, was completed last week, pumping 20 bbls. daily, total depth 5,438 feet. The well pumps off in about 10 hours. A thinning section of saturated lime, and reduced porosity, are contributing factors which makes this extension well a small producer.

Lincoln Parish

In the Lincoln Parish portion of the Lisbon field Magnolia Petroleum Co. made one completion last week, No. 2 F. Corbin, E half NE NE section 6-20-4, flowing 50 bbls. hourly through half-inch tubing choke, total depth 5,318 feet.

Monroe Gas Field

During the past month six gas wells have been completed in the Monroe gas field, one in Morehouse Parish, one in Ouachita Parish, and four in Union Parish. Aggregate gas volume of these six wells amounted to 29,000,000 feet, average rock pressure 800 pounds.

Webster Parish

As a new deep gas-distillate producer in Cotton Valley, Ohio Oil Co. No. 47 Bodcaw Lumber Co. Account 2, SW SE section 15-21-10, gauged 3,000,000 feet of gas and 185 bbls. of distillate in three hours through three-sixteenths inch tubing choke, tubing pressure 2,900 pounds, casing pressure 2,950 pounds, total depth 8,459 feet.

Estimated Daily Production

Estimated daily gross production all companies week ending October 30:

NORTH LOUISIANA

	Bbls.
Bellevue	790
Caddo light	3,910
Caddo heavy	2,680
Converse	655
Cotton Valley heavy	450
Cotton Valley light	*3,900
De Soto and Red River	1,470
Elm Grove	395
Haynesville	3,110
Holly	85
Homer	2,450
Lisbon	6,690
Pleasant Hill	125
Rodessa	45,220
Sarepta-Carterville	320
Sligo	240
Sugar Creek	365
Urania	2,730
Zwolle	680
Total	76,265

SOUTH ARKANSAS

Champagnolle	1,310
El Dorado	1,945
Lisbon	280
Miller County	460
Nevada	730
Rodessa	15,110
Schuler	7,256
Smackover light	2,070
Smackover heavy	17,000
Stephens	575
Troy	730
Urbana	1,175
Total	48,641

Texas side of Rodessa field 28,190 bbls. daily.

*3,500 bbls. is distillate.

ARKANSAS

Columbia County

Standard Oil Co. of Louisiana took an additional 10 feet of penetration in their new Permian lime field near Buchner, No. 1 J. P. McKean, SW section 8-16s-22w, and increased the well's flow about 3 bbls. hourly. However, after deepening, the well flowed continuously for 24 hours, which is something it had not done previously. On last test it produced 397 bbls. of oil through open tubing in 24 hours, 1 per cent B.S. and muddy water, casing pressure 245 pounds, tubing pressure 20 pounds, gravity 33.5 degrees A.P.I. corrected. The well's flow continues to average 16½ bbls. hourly. Operators plan to take additional penetration into the Big lime and make another production test. Present total depth 7,214 feet.

Clark County

Carter & Burdick No. 1 Ozan Lumber Co., wildcat in NE NE NW section 25-9-19, has been abandoned as dry, total depth 1,936 feet.

Cross County

Manning & Martin No. 1 Park-Greseck, NW NE NE section 4-6n-5e, a few miles west of Memphis, has been abandoned as dry at a total depth of 4,380 feet.

Hempstead County

C. W. Hayes No. 3 State of Arkansas, Block 23 of of the town of Fulton, has been abandoned as dry at a total depth of 1,611 feet, after testing both the Nacatoch and Tokio levels.

Lonoke County

At a total depth of 512 feet, A. N. Demers No. 1 J. High, NE SW NE section 25-1n-9w, has been abandoned as dry.

Sevier County

C. & M. Oil Co. No. 1 Arnold, SW NW NE section 23-9-30, has been abandoned as dry in the Paleozoic, total depth 996 feet.

Union County—Schuler

Lion Oil Refining Co. completed its first well in the Schuler field's third producing level last week, as No. 1-A Edna Morgan, section 18-18-17, gauged 342 bbls. of 62.5-gravity distillate in 12 hours through half-inch tubing choke, with 15,000,000 feet of gas, 2,500 pounds tubing pressure, casing pressure 2,350 pounds, total depth 7,686 feet in top of the Permian lime.

(Continued on Page 89)

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East and East Central Texas

By L. E. BREDBERG

TRINITY TESTS APPROACHING CLIMAX IN WOODBINE AREA

DALLAS, Tex., Nov. 1.—Several deep tests are reaching the climax in the East Texas Woodbine sand area. One test was abandoned in the past week when it failed to find production in the Glen Rose, member of the Trinity. This test was drilled by the American Liberty Oil Co. and E. B. LaRue on the old LaRue structure in eastern Henderson County, on lands of the Amicable Life Insurance Co. Location is in Block 11, P. Jackson Survey, 2 miles west of LaRue. Total depth is 7,525 feet, and elevation 464 feet. Another test is now preparing to start up in the same area, but on lands of Breedlove & Mills, in the J. Dunn Survey, 5 miles northwest of LaRue. It will seek production in the Trinity.

In the Opelika area of Henderson County, Tide Water Associated Oil Co., Seaboard Oil Corp. and Humble Oil & Refining Co. No. 2 McElreath & Suggett, located in the W. P. Wyche Survey, southwest of the small discovery well of the three companies, has set casing at a plugged-back depth of 9,255 feet. The crew will perforate at various intervals to seek the gas-producing horizon where an estimated 15,000,000 feet of gas was coming from last week when the test was plugged back from a total depth of 9,320 feet and water used in circulating the hole. The gas had to be killed in order to run the 7-inch pipe.

Porosity Showing

The Humble Oil & Refining Co. and Gulf Oil Corp.'s East Texas field east-edge test, about 2½ miles southwest of Longview in Gregg County, and on the E. Robertson lands, in the M. Mann Survey, showed some porosity at 6,551-68 feet in cores from 6,562 to 6,588 feet. On a 15-minute drill-stem test it showed 500,000 feet of gas through three-eighths inch choke on top and bottom. It is now coring below 6,590 feet, and has drawn more attention since this drill-stem showing in the Glen Rose, which was topped at 4,876 feet. Elevation is 272 feet.

The Stanolind Oil & Gas Co. has been making a series of drill-stem tests in No. 1 T. Norris, in the Thresher Survey, 5 miles north of Kosse in Limestone County, but so far none of them has yielded anything but mud, and another test is to be made. The last test was at 5,388-5,408 feet, where some saturated and porous hard, tight brown sand had been cored, but it failed.

Deep Abandonment

G. C. Collier and Corley have abandoned their deep test 14 miles southwest of Nacogdoches in the county of that name. With an elevation of 198 feet, it has been given up as a failure at a total depth of 5,834 feet.

Several months ago this column carried an account of leasing on the Kelsey salt dome in northwestern Upshur County by Tom Hunter of Wichita Falls, and others, and mentioned the fact that a deep test would be drilled in the future. The operators have added more to their holdings in this area recently, and prospects of the deep test appear more promising at this writing.

Many tests have been put down in Angelina County, on the south end of the Woodbine Basin. This week two locations were made, one of which is already drilling. J. C. Bonham staked on the Cameron Lumber Co. lands, in the E. Miller Survey, 3 miles southeast of Zavalla, and J. G. Mayo is drilling No. 1 Holmes Brothers in the S. F. Noble Survey.

Sulphur Bluff Field

Reports are to the effect that Hager, Russ & Luce, discoverers of the Sulphur Bluff field, located 2 miles south of the town of that name in northeastern Hopkins County, and along the Balcones fault line, are planning on drilling a test to the basal Glen Rose of the Trinity series. The wells are now producing from the Paluxy sand, upper member of the Trinity. The test is expected to be drilled on the north edge of the field, and if it misses production in the Paluxy will be drilled to the Glen Rose, which would be an important test for those holding producing and other leases in the area. Two such tests were drilled on the east side of the Talco field, 18 miles to the northeast, in Titus County, but they proved failures in the Glen Rose.

EAST TEXAS FIELD COMPLETIONS

Gregg County

W. D. Ambrose No. 13 Jones, 3,570-3,650 feet, 70 bbls. in 30 minutes. Atlantic Refining Co. No. 24 Porter, 3,608-3,705 feet, 43 bbls. per hour; No. 10 Tuttle, 3,522-3,647 feet, 49 bbls. per hour; No. 16 Anderson, 3,472-3,512 feet, 81 bbls. per hour. Clark & Cowden No. 12 Christian, 3,653-63 feet, 60 bbls. per hour. Collins and others No. 15 Fisher, 3,423-34 feet, 15 bbls. in 15 minutes. Gulf Oil Corp. No. 87 Judge, 3,483-3,502 feet, 64 bbls. per hour. Humble Oil & Refining Co. No. 16 Killingsworth, 3,566-75 feet, 60 bbls. per hour. Magnolia Petroleum Co. No. 18-B Christian, 3,640-60 feet, 80 bbls. per hour.

Red Star Oil Co. No. 5 Le Maire, 3,588-3,608 feet, 50 bbls. in 30 minutes. Shell Petroleum Corp. No. 39 Moore, 3,548-70 feet, 20 bbls. in 20 minutes. Stanolind Oil & Gas Co. No. 18-A Fenton, 3,552-98 feet, 43 bbls. per hour. Stanolind Oil & Gas Co. No. 13 Ingram, 3,522-95 feet, 64 bbls. per hour. Stanolind and others No. 8 Le Maire, 3,541-3,621 feet, 48 bbls. per hour. Bert Ikeler No. 2 Castleberry, 3,455-3,510 feet, 5 bbls. per hour on pump, pumps off in three hours. Danciger Oil & Refining Co. No. 8 McNeeley, 3,628-30 feet, 20 bbls. in 20 minutes. Everts Drilling Co. No. 7 Laird, 3,545-85 feet, 80 bbls. per hour. Estill and others No. 2 I.&G.N. R.R., 3,609-49 feet, 20 bbls. in 15 minutes.

General Crude Oil Co. No. 8 Howard, 3,615-19 feet, 80 bbls. per hour. Gulf Oil Corp. No. 46 Brown, 3,612-25 feet, 65 bbls. per hour. E. P. Halliburton No. 11-A Lacey, 3,688-89 feet, 20 bbls. in eight hours. M. W. McVey No. 2 Dickson, 3,522-40 feet, 14 bbls. in 30 minutes. Magnolia Petroleum Co. No. 18 Griffin, 3,507-18 feet, 74 bbls. per hour. Overton Refining Co. No. 17 I.&G.N. R.R., 3,548-61 feet, 160 bbls. in eight hours. Charles Pettit No. 3 King, 3,530-41 feet, 20 bbls. in 30 minutes. Potter Brothers No. 1 Dixie Mercantile Co., 3,520-46 feet, 26 bbls. in four hours. Sun Oil Co. No. 58 Cole, 3,501-06 feet, 45 bbls. per hour.

Rusk County

W. L. Allen No. 3 Morse, 3,570-3,620 feet, 30 bbls. in 30 minutes. Devonian and others No. 40 Motley, 3,687-3,702 feet, 75 bbls. per hour. Natural Petroleum Co. No. 6 Henderson, 3,565-92 feet, 4 bbls. per hour on pump. Ward Oil Co. No. 9 Beall, 3,682-83 feet, 43 bbls. per hour. Haynes Oil Co. No. 12 Brown, 3,673-3,746 feet., 20 bbls. in 30 minutes. Humble Oil & Refining Co. No. 7 Bagdett, 3,684-85 feet., 80 bbls. per hour; No. 15 Kee, 3,691-92 feet, 70 bbls. per hour; No. 10 Wooster, 3,703-19 feet, 65 bbls. per hour; No. 11 Wooster, 3,696-3,711 feet, 60 bbls. per hour. Jackson and others No. 12 Wilson, 3,621-46 feet, 60 bbls. in 30 minutes. A. McCutchin No. 7 Clay Heirs, 3,516-3,648 feet, 20 bbls. in four hours on pump. Trico Oil Co. No. 5 Motley, 3,741-42 feet, 75 bbls. per hour.

Smith County

Gulf Oil Corp. No. 17 Stone, 3,781-82 feet, 10 bbls. per hour.

Upshur County

Barnett Petroleum Corp. No. 8 Phillips, 3,720-21 feet, 50 bbls. in 12 hours on pump. General American Oil Co. No. 20-A Sanders, 3,579-83 feet, 20 bbls. in 20 minutes. Magnolia Petroleum Co. No. 19 Hampton, 3,620-35 feet, 60 bbls. per hour. P. H. Pewitt No. 5 Porter, 3,704-05 feet, 25 bbls. in 30 minutes; No. 6 Porter, 3,722-23 feet, 30 bbls. per hour; No. 12 Williford, 3,652-54 feet, 25 bbls. in 50 minutes. B. F. Phillips No. 8 Everetts, 3,600-01 feet, 35 bbls. per hour.

EAST CENTRAL TEXAS COMPLETIONS

Anderson County

A. McCutchin No. 1 Keeling, 5,332-54 feet, 60 bbls. through 5/64-inch choke. Tide Water Associated and Seaboard No. 3 Rampy, 3,935-4,088 feet, 19 bbls. through 5/64-inch choke; No. 2 Smith, 5,234-5,356 feet, estimated 100,000,000 feet of gas.

Franklin County

L. S. Flannery No. 8 Hedrick, 4,275-4,305 feet, 601 bbls. per day pumping and flowing. G.M.W. Oil Co. No. 1 Bolin, 4,248-4,320 feet, 11 bbls. per hour on pump. Grey & Wolfe No. 5 Bolin, 4,210-4,342 feet, 359 bbls. on pump. Humble Oil & Refining Co. No. 4 Dawson, 4,251-4,325 feet, 152 bbls. on pump; No. 46 King, 4,218-4,314 feet, 213 bbls. on pump. Magnolia Petroleum Co. No. 10 Owings, 4,248-4,300 feet, 296 bbls. on pump. O'Neal & Rotundi No. 2-A Bolin, 4,240-94 feet, 324 bbls. on pump. Stroube & Stroube No. 4 Hedrick, 4,260-93 feet, 482 bbls. on pump. Werby & Tune No. 4 Sanders, 4,250-98 feet, 259 bbls. on pump.

Henderson County

American Liberty Oil Co. No. 1 LaRue and Johnson, 2 miles west of LaRue, dry and abandoned 7,525 feet, elevation 464 feet. Cayuga Oil & Gas Co. No. 5 Williams, 4,072-93 feet, 157 bbls. through one-eighth inch choke. Westbrook Oil Co. No. 3 Wathen, 4,059-4,111 feet, 32 bbls. through one-sixteenth inch choke.

Red River County

R. I. Carter No. 1 Tutt, dry and abandoned 1,360 feet, 2½ miles southeast of Avery, elevation 440 feet.

Titus County

P. Goodwin and others No. 2 Simms, 4,299 feet, 153 bbls. on pump. Housh & Thompson No. 6 Hargrove, 4,245 feet, 424 bbls. on pump. Lucey Petroleum Co. No. 9 Williams, 4,234-86 feet, 381 bbls. on pump. Magnolia Petroleum Co. No. 13 Mainard, 4,307 feet, 194 bbls. on pump. R. Moore, Trustee, No. 1-D Edwards, 4,228-90 feet, 247 bbls. on pump. Scott Brothers No. 1-A Edwards, 4,256-83 feet, 234 bbls. on pump.

N. Y.-Penna. Gas Fields

COUDERSPORT, Pa., Nov. 1.—The eleventh successful completion in the Woodhull Oriskany sand gas field of Steuben County, New York, was recorded in the past week when the New York State Natural Gas Co. drilled in its test on the H. J. Tubbs farm. The well had an initial open flow of 10,480,000 feet from a total depth of 3,875 feet.

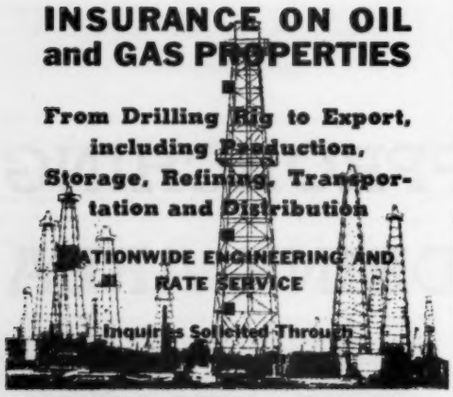
The top of the Onondaga was at 3,825 feet and the top of the Oriskany at 3,864 feet. The elevation of the derrick was 1,488 feet. The well had an initial rock pressure of 1,875 pounds.

It was the lone completion of the week in the New York-Pennsylvania Oriskany sand fields but there were three new locations bringing the total of operations to 35.

The new locations are:

Sylvania Corp., spudding in on the E. G. Husted farm, Jasper Township, Steuben County.

Chancy and others, building rig on the M. Hargraves



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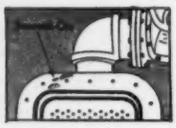


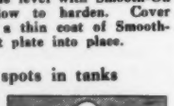
Fill the depressions with a stiff putty of Smooth-On No. 1, and smooth to a true surface. When hard the joint is ready for service.

Strengthening worn or corroded surfaces of tanks or shells

Cut a plate large enough to cover the area to be protected, and shape it to conform to the surface. If the worn area is small, cover it with Smooth-On No. 1 or No. 2 and seat plate while cement is soft, using bolts or screws to hold in place. The slow-setting Smooth-On No. 2 is easier to use and is best for water tanks.

At large areas, build up corroded surface to true level with Smooth-On No. 1. Allow to harden. Cover surface with a thin coat of Smooth-On No. 3 (very slow setting) and bolt plate into place.

Small holes and corroded spots in tanks



For a deeply corroded spot: drill a hole through the metal to take a bolt. Apply washers large enough to cover area of corrosion as shown and fill between with Smooth-On No. 1. For slightly corroded spots, clean and fill with Smooth-On No. 6.

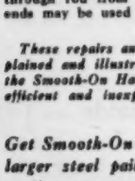
Sealing circular openings, tubes or pipe connections

Circular openings in shells, heaters or radiators are sealed as shown. Two washers and a bolt are needed. One washer should be just small enough to go through the hole. The other washer is larger than the hole. Assemble the plug, pack with a stiff putty of Smooth-On No. 1 and then push into the opening. Hold end of bolt with pliers and tighten nut to spread out the Smooth-On to fill the hole.

To seal a split tube, insert a Smooth-On plug in both ends. If added strength to resist *internal* pressure is required, a through rod from one plug to the other and threaded at the ends may be used instead of separate bolts.

These repairs and the many others explained and illustrated with diagrams in the Smooth-On Handbook are all simple, efficient and inexpensive.

Get Smooth-On in 1 or 5-lb can or larger steel pail from your dealer or if necessary from us direct.



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farm, Woodhull Township, Steuben County. This location is 60 feet from the west road and 100 feet from the north line.

New York State Natural Gas Co., location staked 1,000 feet from the north and 886 feet from the south farm lines and 340 feet from the west township line, on the Franklin Miller farm, Troupsburg Township, Steuben County.

Pennsylvania Operations

The Potter Development Co. remains shut down at 6,062 feet in the Crawford farm wildcat in Keating Township, Potter County. The company is cleaning out its test on the Haupt farm, West Branch Township, same county, which is now down 5,620 feet.

G. L. Cabot, Inc. is shut down to run casing on the R. Johnson farm in Bingham Township, also in Potter Township. This test is shut down at 5,205 feet, 5 feet in the Onondaga limestone.

In other Potter County operations, P. P. & L. Co. is shut down at 4,970 feet on the G. M. Whitman farm, Harrison Township; New York State Natural Gas Co. is drilling at 1,370 feet on the A. D. Marble farm and at 1,600 feet on the A. Schofield No. 2 farm, both in Harrison Township; Ward Wasson is drilling at 2,250 feet on the R. B. Hall farm, Genesee Township; G. L. Cabot, Inc. has staked a location on the Orwin & Carlson farm, Wharton Township, and French and others are shut down at 400 feet on the Mary Webster farm, Genesee Township.

Updegraff has resumed drilling on his test on the C. E. Erickson farm, Elk Township, Warren County, and is now down 4,538 feet. Two other tests are drilling in this county, Evjen and others at 3,660 feet on the Dusenberry farm, Watson Township, and Belmont Quadrangle Drilling Co., at 980 feet on Lot 487 (elevation 1,642 feet), Pleasant Township. Kane Industrial Gas Co. remains shut down at 4,435 feet on Lot 515, Watson Township. The H. C. Drilling Co. is also shut down in its test on the Van Scoy farm in Hamilton Township, McKean County, at 4,770 feet.

New York Operations

The status of Woodhull field operations according to the latest report follows:

Belmont Quadrangle Drilling Co. is drilling at 3,915 feet on the L. S. Johnson farm after passing through the Tully at 3,223-76 feet.

Williamsport Oil & Gas Co. is drilling at 1,970 feet on the Della Lampson farm.

Southwestern Development Co. has staked a location on the J. Seeley farm.

New York State Natural Gas Co. is drilling at 230 feet on the Chester L. Bonham farm (elevation 1,745 feet), and is building the rig on the Charles Finch farm (elevation 1,760 feet).

Hanley & Bird are running surface casing in their test on the E. H. Ackerman No. 1 farm. This well has been drilled to 725 feet.

G. L. Cabot, Inc. is drilling at 3,646 feet on the C. Groves farm after passing the Tully at 3,350-3,405 feet.

Hanley & Bird are drilling at 2,570 feet on the J. Lobeck farm (elevation 1,715 feet).

J. Becker is drilling at 985 feet on the Fred Sly farm (elevation 1,715 feet).

Cunningham Natural Gas Co. is drilling at 2,620 feet on the J. J. Johnson farm (elevation 1,635 feet).

Southwestern Development Co. is drilling at 200 feet on the E. G. Husted farm (elevation 1,527 feet).

Belmont Quadrangle Drilling Co. is moving material in on the John Allen farm.

Southwestern Development Co. has the rig up on the Earl Brown farm (elevation 1,591 feet).

Sylvania Corp. has the rig up on the John Allen farm.

In the only other test in Steuben County, outside the Woodhull area, New York State Natural Gas Co. is drilling at 2,170 feet on the A. Schaul farm in Troupsburg Township.

Fairman and others are drilling at 4,969 feet on the C. Wilson farm, Willing Township, Allegany County. The Onondaga was topped at 4,938 feet in this test. Two other operations are under way in Allegany County, G. L. Cabot, Inc. is shut down to run casing on the Thomas Murphy farm, Alma Township, in a test drilled to 4,708 feet, and Southwestern Development Co. has the location staked on the John Estate farm in Willing Township.

Southwestern Development Co. is down to 5,495 feet in its wildcat test on the Federal Land Bank farm, Montour Township, Schuyler County, and is still drilling.

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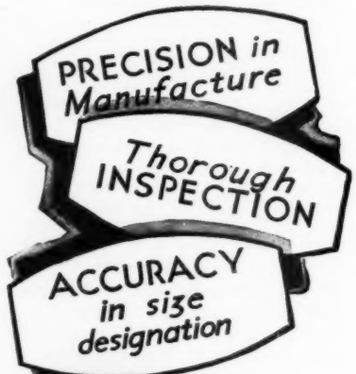

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Central West

By STAFF CORRESPONDENT

THIRTEEN OIL WELLS ADDED TO CENTRAL ILLINOIS BASIN

MATTOON, Ill., Nov. 1.—Twenty wells were completed in the past week in the Illinois Basin fields of which 13 were oil wells with a total initial production of 4,117 bbls. and 7 were dry holes.

In Clay County, Pure Oil Co. No. 1 Hubble, NE SE SE section 8-2n-8e, swabbed and flowed 368 bbls. of oil in 24 hours from pay at 2,992-3,014 feet, total depth.

Pure Oil Co. No. 11 Poppe, SE SW NW section 27-3n-8e, flowed 1,991 bbls. the first day from pay at 2,964-86 feet, total depth 2,997 feet.

J. C. Shaffer and others No. 1 Leibke, SE SE SW section 17-3n-7e, was dry and abandoned at 3,002 feet. It had Glendean lime at 2,406 feet and top of the McClosky lime at 2,988 feet. It swabbed all salt water.

Wiser Oil Co. No. 9 Don Smith, NW SE NE section 28-3n-8e, was acidized with 1,000 gallons and made a 65-bbl. pumper. Pay lay at 2,871-75 feet, total depth 3,051 feet.

Gordon Oil Co. No. 2 Land Bank, SE NE SE section 8-2n-8e, was acidized with 1,500 gallons and later flowed 400 bbls. of oil in three hours. It was given another dose of 200 gallons. It was put on the pump and produced 358 bbls. of oil in 24 hours.

In Clinton County, W. C. McBride, Inc., No. 1 Koumerous, C W half SE SE section 27-2n-3w, was dry and abandoned at 1,515 feet. It topped Mississippi lime at 1,338 feet.

Santa Fe Oil & Gas Co. No. 2 Kohrsman, SE cor. NW NE section 5-1n-3w, was shot with 30 quarts in Benoist sand at 976-95 feet and made a 120-bbl. pumper.

Beel Oil Co. (formerly reported Santa Fe) No. 1 Maddox, C W half NW SW section 4-1n-3w, had sand at 977-96 feet. It pumped 40 bbls. in 24 hours.

Santa Fe Oil Co. No. 1 Shipman, C S half SE SE section 4-1n-2w, was abandoned at 1,521-22 feet. It was a hole full of water.

In Fayette County, Universal Oil Service Co. No. 1 County Farm, SE cor. NW SE section 36-7n-1w, was a hole full of water at 1,527-33 feet and was abandoned at 2,000 feet.

In Marion County, Ralph Ayers and others No. 1 Vandeventer, NW SE SE section 18-4n-1e, was dry and abandoned at 1,725 feet. McClosky lime was topped at 1,695 feet.

Adams Oil & Gas Co. No. 1 Freyer, SW NE SW section 21-4n-1e, made a 12-bbl. pumper from sand at 1,394-1,435 feet.

Adams Oil & Gas Co. No. 12 Merryman, C N half SW SW section 21-4n-1e, started at 35 bbls. per day on the pump from sand at 1,395-1,426 feet.

J. Hausman No. 3 Mojonnier, SW NE SW section 28-4n-1e, was good for 35 bbls. initially from sand at 1,439-66 feet.

Pugh & Broadis No. 1 Belcher, SW NW SE section 28-4n-1e, had sand at 1,445-54 feet and is an 8-bbl. pumper.

Kirk D. Holland No. 1 Dalay, NW NW NW section 33-4n-1e, was abandoned at 1,726 feet. It had Roseclaire sand at 1,623-60 feet and it was dry.

In Richland County, Pure Oil Co. No. 4 Palmer Taylor, SW SE SE section 5-3n-9e, flowed 357 bbls. the first 24 hours from pay at 2,960-65 feet, total depth 2,977 feet.

Pure Oil Co. No. 1 Wilson, NW NE SW section 34-4n-9e, was abandoned at 3,050 feet. It had poor saturation 2,982-86 feet.

Pure Oil Co. No. 2 Palmer Taylor, SE SW SE section 5-3n-9e, flowed 594 bbls. the first 24 hours from pay at 2,948-63 feet.

Southern Illinois Petroleum Corp. No. 1 H. Allard, NW NW NW section 16-3n-9w, was a 134-bbl. pumper producing from pay at 2,577-91 feet, total depth 2,961 feet.

New Operations

First reports of new operations numbered 20, or no more or less than the wells completed.

In Clay County, H. L. Williamson and others No. 1 Schnautz, SE SW NE section 31-4n-1e, is a rig; Pure Oil Co. No. 3 Scrughman, NW SW NW section 9-2n-8e, rigging up rotary; Pure Oil Co. No. 1 Leon Clark, NE NW SE section 8-2n-8e, spudded; Vermilion Oil Co. No. 1 Duff, NW cor. NE SE NE section 19-3n-8e, spudded.

In Clinton County, Adams Oil & Gas Co. No. 1 Schmidt, SE SE NE section 2-1n-1w, building rig.

In Fayette County, Belcher and others No. 1 Crawford, NW NE NE section 35-4n1w, rigging up rotary.

In Jasper County, Denver Producing & Refining Co. No. 1 Ochs, NW NW NE section 33-6n-14w, rotary rig up.

In Marion County, J. I. Staley No. 1 Carter, SE cor. NE SW section 28-4n-1e, drilling at 225 feet; Alexander and others No. 3 Allison, NW SW SW section 33-4n-1e, drilling at 726 feet; Coleman & Blosser No. 1 Britt, NW NW NW section 36-4n-1e, machine on the ground; Adams Oil & Gas Co. No. 4 Howell, 1,060 feet from north and 1,570 feet from west lines of section 28-4n-1w, rigging up rotary; Shell Petroleum Corp. No. 1 C. Lutz, SW NE NE section 18-3n-1e, a location; Target Oil Co. No. 1 Zollar, SW SW SE section 17-3n-28e, spudded.

In Richland County, J. I. Staley No. 1-A Mitchell, SW cor. SE SE SE section 8-3n-9e, derrick up; J. V. Wright No. 1 Dugan, C W half SE NE section 17-3n-9e, derrick; Mammoth Producing & Refining Co. No. 5 Stanford Heitz, SW NW NW section 34-4n-9e, derrick up.

In Wayne County, Benedum & Trees, Inc., No. 1 Craig, SE SE SW section 28-2n-7e, derrick up; Benedum & Trees, Inc. No. 1 Knapp, NW NW NW section 12-1n-6e, moving in rotary; Benedum & Trees, Inc. No. 1 Yates, SW NW SE section 33-2n-7e, location.

Drilling Operations

In Clay County, Graham & Duncan No. 4 Land Bank, SW SE NE section 8-2n-8e, was drilling at 1,950 feet, and No. 6 Land Bank, SE SW NE section 8, was drilling at 1,730 feet. Pure Oil Co. No. 6 Charles Wilkins, SW SW SE section 28-2n-8e, was swabbing. It had saturated sand at 2,877-82½ feet and lime at 2,960-70 feet and a fair pay at 3,002-03½ feet, total depth 3,012 feet.

Two other near completions of the Pure were No. 4 Chaffin, NE NW SW section 27-3n-8e, which had pay at 2,973-89 feet, total depth 3,000 feet, and No. 11 Poppe, SE SW NW section 27-3n-8e, which had pay at 2,962½-66 feet and 2,969½-75 feet, total depth 2,987 feet. Gordon Oil Co. was reconditioning No. 1 Land Bank, NE NE SE section 8-2n-8e, which came in last month flowing 500 bbls. of oil and some water and sediment. The crew ran a squeeze job to shut off the water and put the well on the pump. No gauge was obtained on the oil production but it is said there was no water with the oil.

M. O. K. Corp. No. 1 Bemis, SE SE NW section 14-3n-8e, total depth 3,017 feet, which produced 204 bbls. a day on the pump, was given 60 shots with a perforating gun at 2,913-25 feet and the crew was running tubing preparatory to testing. Gordon Oil Co. No. 3 Land Bank, SW NE SE section 8-2n-8e, was coring at 2,988 feet. Graham & Duncan No. 3 Land Bank, NW SE NE section 8-2n-8e, flowed 175 bbls. in 10 hours from pay at 2,980-3,033 feet, but was not completed The crew was testing. Pure Oil Co. No. 2 Bressenden, SW NE NE section 5-2n-8e, swabbed and flowed 346 bbls. of oil at a total depth of 3,020 feet but it was not completed. Pay lay at 3,000-05 feet. Pure No. 2 Scrugham, SW NW NW section 9-2n-8e, was at 2,967 feet, fishing for bit. It had a showing of oil at 2,661-70 feet. Southern Illinois Petroleum Co. was shut down at 1,940 feet in No. 1 Nodacker, NW SE SW section 23-3n-7e, because of boiler trouble. C. H. & C. Oil Co. No. 1 Duff 2,200 feet.

Wiser Oil Co. No. 7 Smith, NE NE NE section 28-3n-8e, was pumping all salt water; same company's No. 11 D. Smith, NE SW NE section 23-3n-8e, had Weller sand at 2,636-38 feet and a hole full of water. Seven-inch casing was run to 2,630 feet and the hole was being deepened. It had reached a depth of 2,650 feet.

Pure Oil Co. No. 1 A. L. Moseley, SW NE NE section 33-3n-8e, was being made ready for an acid treatment. Same company's No. 2 Moseley, NW NE NE section 33-3n-8e, had saturation at 2,625-34 feet and was drilling at 2,774 feet. Pure Oil Co. No. 1 Moseley, NE SW NW section 33-3n-8e, was drilling at 2,771 feet. J. V. Wicklund was drilling at 3,124 feet in No. 1 McCauley, SW SW SE section 23-3n-8e. It had a showing of oil at 3,061-66 feet.

Wildcat Drilling

In Christian County, Parshall & Graham No. 1 Yockey, SW SW NE section 36-15n-2w, was shut down at 2,800 feet. It topped what is believed to be Trenton rock at 2,758 feet.

In Clark County, National Consumers Oil Co. No. 1 Jackson, NW NE NW section 21-11n-12w (measuring from Indiana principal meridian), was still being tested. In 12 days of pumping it produced only 40 bbls. of oil, while bringing up about 125 bbls. of water per day. M. V. Yeager No. 1 Robinson, SE SW NW section 17-10n-11w, was spudded.

In Clinton County, McClanahan Oil Co. was drilling at 457 feet in No. 1 Pearl Hessler, SE cor. NE NW SW section 26-3n-1w.

In Cumberland County, Jolly, Hill, Stipes and others were drilling at 1,325 feet in No. 1 Jenkins, SE NE NE section 30-10n-9e.

In Edwards County, Leach Brothers No. 1 A. D. Lee, SW NE SE section 11-1s-10e, was drilling at 2,535 feet.

In Effingham County, Kingwood Oil Co. No. 1 Bartel, C W half NW NE section 26-6n-5e, was drilling at 2,865 feet.

In Fayette County, Oil Development Co. was drilling below 1,175 feet in No. 1 Vance, SE SE SE section 16-7n-3e, and Carter Oil Co. No. 1 Miller, C W half NW NW section 12-8n-3e, was at a total depth of 3,170 feet, where a drill-stem test showed sulfur water. The hole was plugged back to 3,100 feet and the crew was waiting for cement to set.

In Hamilton County, Carpenter No. 1 Clark, NW NW SW section 32-3s-5e, was coring hard lime at 3,295 feet. J. Garfield Buel No. 1 Dickey, SE SE SW section 22-3s-7e, was drilling at 2,790 feet.

In Jasper County, W. R. Anderson is drilling a Devonian test, No. 1 Hetzgar, C W half NE SE section 10-7n-8e. McClosky lime was topped at 2,915 feet and the crew was drilling at 3,131 feet. C. R. Obermyer No. 1 Altkins, C NW NE section 3-6n-9e, was shut down for fuel at 260 feet.

In Jefferson County, Schlossberg & Sigel No. 1 Schneider, NE cor. SE section 15-1s-1e, was drilling below 700 feet. Carter Oil Co. was drilling in hard lime at 2,405 feet in No. 1 Tate, C W half NW NE section 10-1s-2e

In Lawrence County, Strauss and others No. 1 Robeson, SW SE NE section 16-3n-10w (measured from Indiana principal meridian), was drilling at 2,065 feet, in lime.

In Perry County, J. H. Forester No. 1 fee, C W half SW NW section 5-6s-1w, was abandoned at 5,133 feet some time ago, but the owner recently decided to deepen and has reached 5,249 feet where the operation was shut down.

In Pope County, C. C. Whitlock No. 1 Anthis, NW NW NW section 12-11s-5e, was shut down in sand at 1,352 feet.

In Saline County, Will Rogers and others were drilling in sand at 474 feet in No. 1 Saylor, SE SE SE section 3-10s-6e.

In Randolph County, Mabee Consolidated Co. and others No. 1 Wilson, NE SE NE section 3-4s-5w, had a

hole full of water at 2,025 feet; base of the Mississippi lime at 2,078 feet, total depth 2,264 feet. The 6⅝-inch casing will be rerun.

In Washington County, Milliken and others were drilling in hard lime at 1,575 feet in No. 1 Lesseman, NW NW NW section 36-1n-2w.

In Wayne County, Benedum & Trees, Inc. No. 1 Knapp, SE NW SW section 33-2n-7e, drilled to 3,154 feet and plugged back to 3,149 feet. It pumped 15 bbls. of oil in one hour. Fitzpatrick & Myers No. 1 Shannon, SW NW SE section 26-2n-8e, completed a squeeze job to shut off water, using 35 sacks of cement. The crew was drilling plug. Total depth of the hole is 3,067 feet. Duncan Brothers No. 1 Riggs, NW NW SE section 27-2n-8e, was coring at 2,990 feet.

In Marion County

In Marion County, T. M. Connery and others No. 1 Thalman Estate, NE cor. NW NW SE section 9-3n-1e, was drilling at 848 feet; Marion Oil Co. No. 1 Wilson, NE NE SE section 18-3n-3e, drilling at 825 feet; Eddington, Baldwin & Parker No. 1 Nichols, CEL SW SE section 12-4n-4e, total depth of 2,558 feet, and will run 5-inch casing; Schlossberg & Sigel No. 1 Roddy, SW cor. SE SW section 20-2n-3e, shut down at 2,116 feet; Roy Benoist No. 1 Belcher, NW SE SW section 3-3n-1e, drilling at 1,516 feet. Alexander and others No. 3 Allison, NW NW SW section 33-4n-1e, total depth 1,477 feet with 1,200 feet of salt water in the hole after a 15-quart shot on bottom; crew was cleaning out.

Busy Richland County

In Richland County, Charles L. McMahon No. 1 Land Bank, SW SE NW section 27-4n-9e, was at a total depth of 2,965 feet. Mammoth Producing & Refining Co. No. 2 Stanford Heitz, SE SW NW section 34-4n-9e, plugged back from 3,150 feet to 3,048 feet, and the crew was cleaning out. Same company's No. 3 Heitz, NW SW NW section 34, was at a total depth of 3,010 feet with a cavey hole. The crew was cleaning out. Pure Oil Co. had rig up for No. 1 Schneider, NW NW NW section 3-3n-9e. Pure Oil Co. was drilling at 2,086 feet in No. 5 Palmer Taylor in section 5-3n-9e.

Fortney Oil Co. No. 1 Warden, C E half SE SE section 8-3n-9e, was at a depth of 2,957 feet with 7-inch casing set at 2,940 feet. W. F. Lacey was drilling at 1,145 feet in No. 1 Galloway, SE cor. section 8-3n-9e, and had cellar and pits dug for No. 2 Galloway, C SE SE SE section 8-3n-9e. These last two operations were previously reported as Livingston and others.

Ohio Oil Co. No. 5 Arbuthnot, NW NW NE section 8-3n-9e, had pay at 2,960-79 feet and flowed 1,053 bbls. in 20½ hours. It was not yet a completion.

Pure Oil Co. No. 1 Frost, SE cor. SW SW SW section 9-3n-9e, was coring at 2,978 feet. Southern Illinois Petroleum Co. was drilling at 1,390 feet in No. 2 Allard, NE cor. SE NW NW section 16-3n-9e. Mammoth Producing & Refining Co. was drilling below 500 feet in No. 1 McCauley, SW SE NW section 28-3n-9. Carter Oil Co. was drilling below 2,076 feet in No. 3 Walters, NE NE SE section 33-4n-9e. Pure Oil Co. No. 1 Correll, NW NE SE section 33-4n-9e, was drilling at 1,525 feet. Pure Oil Co. was coring at 2,969 feet in No. 1 Tatman, SE NE NE section 33-4n-9e. Carter Oil Co. No. 2 Watkins, NE NW SW section 34-4n-9e, was shut down at 315 feet.

CENTRAL OHIO

FINDLAY, Ohio, Nov. 1.—An interesting but unsuccessful test to find production in the St. Peter sand (the Wilcox sand of Oklahoma), has been completed by the Sun Oil Co. 10 miles east of this city, in section 14, Big Lick Township, Hancock County, on the Charles Heinger farm. It was drilled through the Trenton limestone and St. Peter sand and abandoned. The Trenton was found from 1,327 to 1,935 feet, and was hard and dry; the St. Peter from 1,935 to 1,959 feet, showing a quantity of Blue Lick water. Total depth was 2,030 feet.

In Athens County, Ames Township, Fraction 17, D. T. Orndoff completed No. 1 C. M. Keirns for a gas well in the second Berea sand at 1,399-1,414 feet. It gauged 100,000 feet. In Canaan Township, section 18, Carpenter and others completed No. 17 L. L. Bean in first Cow Run sand for a 2-bbl. oil well. In the same township, section 11, Speary Oil & Gas Co. drilled No. 2 Robert Smith for a small gas well in the second Berea at 1,478-92 feet.

In Coshocton County, White Eyes Township, section 8, a wildcat drilled by Wittmer Oil & Gas Co. on the E. E. Steiner farm, was a dry hole in the Clinton sand at 3,997-4,038 feet, total depth 4,118 feet.

In Guernsey County, Cambridge Township, section 21, Cambridge Glass Co. drilled a dry hole in No. 1 L. R. Yarnell. Berea sand was at 1,218-60 feet, total depth 1,302 feet. In Jefferson Township of the same county, section 7, Moss and others completed No. 2 David S. Gibson. It gauged 500,000 feet per day from Berea sand at 1,253-1,310 feet. In Liberty Township, section 11, George P. Wasmuth No. 2 L. D. Milligan is a gas well. It gauged 100,000 feet per day from Berea sand at 1,025-76 feet. In Jackson Township, section 18, John Seward completed No. 1 John Killanny for a small gas well in the Berea sand. Top of the Berea was at 1,135 feet, and the total depth 1,145 feet.

In Knox County, Jackson Township, section 10, Hulse & Kuntz, Inc. completed a 120-bbl. well in Clinton sand in No. 3 L. A. Stone. Clinton was at 3,148-90 feet.

In Licking County, Perry Township, section 6, Armbruster and others completed No. 10 Sarah Patton heirs in the Berea grit at 685-96 feet. It made 5 bbls. of oil and some gas the first 24 hours after shot.

In Medina County, Medina Township, Lot 37, Ohio Fuel Gas Co. completed No. 1 B. W. Nichols for a Clinton gas well at 3,441-81 feet. It gauged 2,125,000 feet.

In Meigs County, Salisbury Township, section 32, H. M. Nelson No. 1 Jack Goble is a gas well in the Maxon sand at 836-54 feet. It gauged 500,000 feet with a rock pressure of 265 pounds. In the same township, section 32, Harry Smith and others on the Athens & Pomeroy Coal Co.'s tract, completed No. 3 in the Maxburg 800-foot sand. It gauged 125,000 feet, with a rock pressure of 270 pounds.

In Monroe County, Adams Township, section 25, McCalvey and others No. 1 William Baness was a dry hole in the Berea sand at 1,973-81 feet, total depth 2,076 feet. In Franklin Township, section 16, T. E. Drum No. 2 N. M. Leisure is a 3-bbl. well in the Big Injun sand at 1,355-1,481 feet.

In Morgan County, Marion Township, section 13, W. S. Harris No. 1 Bower Carpenter was drilled through Maxon sand. The Maxon carried water, and the well was plugged back to the Stray sand to make a gas well gauging 100,000 feet, with a rock pressure of 300 pounds. The Stray sand was from 960-80 feet, and the Maxon from 1,115-20 feet.

In Muskingum County, Licking Township, third quarter, the Hope Construction & Refining Co. completed No. 4 Almeda Butler for an oil well in Clinton sand at 3,160-3,201 feet. It made 81 bbls. the first 24 hours after shot.

In Noble County, Marion Township, section 33, the Bircher Oil & Gas Co. completed No. 1 J. W. Bircher for a gas well in the second Salt sand topped at 848 feet. It gauged 400,000 feet, with a rock pressure of 254 pounds. In Seneca Township, section 23, Mud Run Oil & Gas Co. No. 1 Eleanor Bond is a small gas well in the Berea grit. In Jefferson Township, section 24, John Yerian No. 12 Mallett heirs was dry and abandoned at 883 feet.

In Perry County, Monroe Township, section 30, Kachelmacher Estate No. 20 Hemlock Coal Co. filled up 3,000 feet and looks good for 100 bbls. The well has not been shot as yet due to proration. The Clinton pay was at 3,614-53 feet. In Reading Township, section 18, Sloan and others completed a dry hole on the Alice Cleary farm in Berea sand at 860-82 feet.

In Stark County, Jackson Township, section 3, East Ohio Gas Co. completed the No. 1 J. Mikalas, good for 1,000,000 feet of gas per day from 4,247-74 feet, with a total depth of 4,281 feet. In the same township, section 18, Ohio Fuel Gas Co. No. 1 Roy Lindsey had only a show of gas in the Clinton sand at 4,113-21 feet and was plugged. In the same township, section 18, Ohio Fuel Gas Co. No. 1 Melvin Rohr had a show of gas in the Clinton at 4,081-96 feet and was abandoned.

In Tuscarawas County, Fairfield Township, section 2, Kenova Oil & Gas Co., in its deep test on the No. 1 James Hardwige, found the Clinton sand dry and broken at 4,927-41 feet, total depth 5,054 feet. In Franklin Township, same county, section 11, East Ohio Gas Co. No. 1 William Ahl is a small gas well in the Clinton sand at 4,535-80 feet. In Sandy Township, third quarter, East Ohio Gas Co. drilled No. 1 Michael Barnhart to the Clinton sand. It was shot and produced 1,200,000 feet of gas, with a rock pressure of 1,350 pounds.

In Vinton County, Richland Township, section 36, Keich Brothers No. 1 John Gardiner is a small gas well in the Hamden sand.

In Washington County, Barlow Township, section 6, Devitt and others No. 20 Francis Fisher is a dry hole in Cow Run sand, total depth 845 feet.

EASTERN KENTUCKY

ASHLAND, Kentucky, Nov. 1.—One gas well and several oil well completions are included in this week's report from Eastern Kentucky. The Inland Gas Company reports the completion of No. 1 on the Ollie M. Glenn land on Levisa Fork in Floyd County. The well was completed in shale at total depth of 2,628 feet and shows an open flow of 350,880 feet of gas per day.

In Lee County Petroleum Exploration completed No. 8 on the J. D. Crabtree land on Little Sinking Creek in the Big Sinking district at a total depth of 1,159 feet shows a flow of 25 bbls. of oil per day.

E. A. Wireman reports the completion of No. 11 Kinser Heirs No. 1 land, on South Fork in the South Fork district of Powell County with an initial production of 10 bbls. of oil. Matt Lawey reports the completion of No. 1 on the Clay Frazier and others land at Mount Springs in Powell County with an initial of 5 bbls. per day. The South Penn Oil Co. started its new repressuring plant on South Fork and is engaged in cleaning out several old wells on the Adams McCoy and Rogers farms in that district.

Kentucky Oil Producers completed No. 1 on the John Rose land in the Keaton district in Lawrence County. The total depth was 774 feet. It made a 3-bbl. well.

The Kentucky-West Virginia Gas Co. No. 8 on the C. W. Preece land on Coldwater Fork in Martin County, drilled to a total depth of 887 feet, in Salt sand, and is good for 6 bbls. a day.

Knott County

The Inland Gas Corp. is down 2,458 feet in slate and shells in No. 3 R. C. Kilgore, on the right fork of Troublesome Creek. The same firm is at the 1,540-foot level in No. 1 on the Mayo Craft farm near by and is idle at Whittaker & Waddel No. 1 near by.

Floyd County

The Kentucky-West Virginia Gas Corp. was drilling at 1,450 feet, in lime, in No. 534 on Jennie Caldwell land on Levisa Fork. The same firm reached the 930-foot mark in No. 557, in Salt sand, on the Ingram Stepp land on Johns Creek. Kentucky-West Virginia is building rig for No. 3 John Lanye at the Mouth Camp Branch of Levisa Fork and is down 153 feet in slate in No. 559 on the John Dillon land on Dropping Lick Fork of Ivy Creek. The same firm is deepening No. 5229 on the John W. Woods land on Porter Branch.

Martin County

Kentucky-West Virginia Gas Co. is idle at No. 5226 on the same land as well as No. 5232, also on the Preece farm. Kentucky-West Virginia is down 820 feet in No. 5231 on the Preece land and is idle at No. 560 on Melissa Ward land on Rockhouse Fork of Rockcastle.

Lawrence County

Kentucky Oil Producers has completed No. 1 on John Rose farm on Keaton in the Keaton district of Lawrence County at a total depth of 774 feet. The well shows a daily flow of 3 bbls.

Powell County

E. A. Wireman reports the completion of No. 11 on Kinser Heirs No. 1 land on South Fork in the South Fork district of Powell County, with a daily flow of 10 bbls. of oil. Coleman Hall is down 600 feet in No. 11 on S. R. Rogers land at Mount Springs in the same district. Matt Laweny has completed No. 1 on Clay Fraziet and others land nearby with a daily flow of 5 bbls. of oil.

Lee County

Petroleum Exploration reports the completion of No. 8 on the J. D. Crabtree farm on Little Sinking in the Big Sinking district of Lee County at total depth of 1,159 feet and a daily flow of 25 bbls. of oil. Thomas Whittmer is down 625 feet in No. 4 on C. J. Tipton land on Billies Fork. C. G. Mays has reached the 760-foot level in No. 10 Medley S. Cole on Little Sinking.

C. E. Townsend, agent, is down 280 feet in No. 1 on Adrew Combs land on Billies Fork. Central States Oil Co. is down 580 feet in No. 6 on Marion Shoemaker land at Zoe. B. J. Adams has reached the 525-foot level in No. 1 on H. C. Johnson land on Contary Creek.

Magoffin County

Bed Rock Petroleum Co. is down 25 feet in No. 13 on J. J. Prater land on Prater Fork of Mash Fork in the Burton-Oil Springs district of Magoffin County. A. V. Hoenig is down 800 feet, waiting for core drill, in No. 12 on Paris Long land on Litteral Fork in the Wheelersburg district. C. J. Sipple is installing re-

pressuring plant on the James Love farm in this district.

WESTERN KENTUCKY

OWENSBORO, Ky., Nov. 1.—Five oil wells and ten dry holes was the lob-sided record of the Western Kentucky fields in the past week, but one of the oil wells, had an initial production of 100 bbls. a day.

Following is the list of completed wells and the new operations:

Hancock County

Pellville district: C. D. Walker, and others, No. 1 Elmer Boling, 9 bbls. Jett sand, 333-362 feet, total depth 367 feet. Shot with 60 qts., 338-367 feet. C. D. Walker and others No. 1 Marion Boling 15-acre tract, 35 bbls., Jett sand, 324-354 feet. Frank Damron and others No. 1 Marion Boling 74-acre tract, 100,000 feet of gas, Jackson sand, 515-565 feet, total depth 597 feet. Abandoned. Frank Damron and others No. 2 Marion Boling, spudding in; Frank Damron and other No. 4 Fred Boling, spudding in.

Cloverport district: Cane Run Petroleum Co. No. 4 Robert Duke, dry hole through Bethel sand 530-53 feet.

Utility district: W. E. Hupp and others No. 1 R. E. Richardson, dry hole to 2 feet in Mississippi lime. No Bethel sand, total depth 713 feet.

Floral district: Frank Damron and others No. 3 Homer Rice, drilling at 100 feet.

Adair district: Taylor Bros. and others No. 1 C. F. Nugent, spudding in.

Ohio County

Narrows district: Staves Drilling Co. No. 4 M. E. Powers, dry hole through Barlow sand, 701-715 feet. W. E. Hupp and others No. 1 Annie Graham, drilling at 387 ft.

Adaburg district: Leeper Oil Co. No. 9 L. C. McKinley, 10 bbls. from Jett sand, 741-754 feet, total depth 762 feet; Leeper Oil Co. No. 2 Flem Douthitt, moving in.

Friendship Church district: E. DeHart and others No. 2 A. P. Kelly Heirs, 10 bbls. from Barlow sand, 670-683 feet, total depth 691 feet, shot with 50 quarts. A. Teller and others No. 6 Estill Board, drilling at 150 feet. Joseph B. Mayer and others No. 4 Tom Hamilton, drilling at 165 feet.

Taffy district: Frank Randall and others No. 3 F. Taylor, dry hole through Jett sand, total depth, 615 feet.

Heflin district: W. W. Damron No. 2 J. F. Smith, dry hole through Jones sand, 1,133-1,164 feet, total depth 1,185 feet.

Daviess County

Habit district: Rex-Pyramid Oil Co. No. 1 L. Taylor, dry hole through Barlow sand, 1,137-1,160 feet; water at 1,155 feet.

Hewletts' Store district: S. J. Sirman No. 1 Joe Johnson, dry hole Barlow sand, 1,078-1,096 feet; Bethel sand, 1,138-1,170 feet. Blue Lick water at 1,327 feet. No. 2 Joe Johnson, spudding in.

Utica district: Daugherty & Ellis No. 2 F. & Rex O'Flynn moving in.

McLean County

Maxwell district: Ellis & Huff No. 2 Ruth Shockley, dry hole, total depth 1,107 feet; Ellis & Huff No. 1 R. C. & L. C. Yates, moving in.

Livermore district: W. E. Hupp No. 29 Hackett Bros. 100 bbls. Bethel sand, 1,417-1,434 feet.

Island district: South-Penn Oil Co. No. 2 J. K. & John Kirtley, rigging up; South-Penn Oil Co. No. 1 Mrs. Rena Brown, deep test, drilling at 2,288 feet.

Henderson County

Niagara district: H. Z. Clark No. 8 J. C. Wallace drilling at 640 feet.

Breckenridge County

Vanzant district: Kentucky Natural Gas Co. No. 4 W. J. Robinson, dry hole through Bethel sand. 531-534 feet, total depth 548 feet. No. 5 rigging up.

Union County

Boxville district: H. Z. Clark and others No. 3 Waller Young, Niagara sand, 1,130-1,161 feet. Nice show of oil, going to shoot.

Butler County

Rochester district: A. M. Collins and others No. 5 Zella Woodall, drilling at 250 feet.

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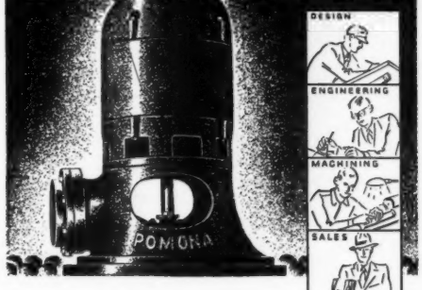

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Michigan Field Report

By
O. C. PRESSPRICH

GLADWIN, GRATIOT COUNTIES GIVEN NEW POOL PROSPECTS

SAGINAW, Mich., Nov. 1.—Exploration for commercial production in Gladwin County outside Buckeye Township's proved production is the focus of interest just now, overshadowing several favorable producers in both the north and south Buckeye pools. What appeared to be a possible forerunner of a new Gladwin County pool was a Secord Township well, Whitehill, Clovis & Drury No. 1 Bosley, in the NE SE SE of section 11. Shut down while tankage facilities were being constructed, the well was reported to have filled with oil from a depth of 3,439 feet, 77 feet in the Dundee limestone.

Important from the standpoint of being well removed from the prolific Buckeye field, the Bosley well lies 9 miles in a northeasterly direction from the north (Wicklund) pool in Buckeye. Structures were reported as running considerably higher than in Buckeye. Gas pressure caused the well to flow briefly.

While the Secord Township well on early reports apparently confirmed a possible new Gladwin field, hopes were dashed by a dry hole in another attempted extension of the north Buckeye pool. The dry one was D. E. Hughes No. 1 Cox, in the SE SE NE of section 12, Sage Township, Gladwin County, which lies 8 miles northwest of the north Buckeye pool and 6 miles directly north of the city of Gladwin, on the Little Sugar River. The test failed to log an oil show anywhere, and was ordered plugged and abandoned.

While apparent success was indicated by the Secord development to the northeast of Buckeye and failure was recorded for the Sage Township test to the northwest, southern Buckeye borders outside that township proper, yet still in Gladwin County, continued to prove up with two additional wells.

In Tobacco Township, lying directly south of section 36, Buckeye, Gladwin Buckeye Corp. No. 1 Johnson, in the NE NW NW of section 1, was acidized and developed 300 bbls. daily production. The well is a direct southern extension of the south (Oard) pool in Buckeye. The other test was McClanahan Oil Co. No. 1 Havens, in the SE NE NE of section 9, Billings Township, lying southeast of Buckeye's section 36. While this test was held up the past week by a fishing job, sampling in the Dundee showed favorable indications. The well is a direct offset of a producing well in section 10 of Billings.

Prospects in Gratiot County

While Gladwin County probed for further oil pools, Gratiot County's hopes for an oil strike ran high after years of unsuccessful wildcatting. Interest centers at present on Redman Oil Co. No. 1 Cresser, in section 18, Emerson Township, 3 miles north of Ithaca and three-quarters mile east. Drilling progress was slow in the past week at a depth below 2,900 feet in the Lower Traverse. Water was reported to have risen in the hole to within 200 feet of the top, but hope of a strike in the Dundee remained alive. Structural formations are reported to be running higher than on the Archie Walters No. 1 test, also in Emerson Township, 1 mile northeast, abandoned in March, 1936, because of water complications. Operators report that the top of the Dundee has not been reached, although the well is below 2,900 feet. A small show of gas was encountered in the Traverse before water flowed into the hole. Possibilities of a commercial producer appear favorable, operators agree, despite the long list of failures for Gratiot County.

South Buckeye Pool

Topping the list of the past week's producers was Schilling & Schrott No. 3 Nash, in the SW NW SE of section 35, Buckeye Township, Gladwin County, which reported a daily production of 1,200 bbls. after acid. The well initialed 100 bbls. naturally, and the step-up due to acid was claimed to make the well the best in the south pool to date. It was reported as holding up well and continuing its high production. The Nash well was the only one brought in during the week in the south pool proper, although three other tests in the so-called midway pool—now forming the northern part of the south pool—came in favorably and extended that field's activity.

Bell & Mark No. 1 Armstrong, in the NE SE SW of section 23, a south offset of Hanners-Armstrong No. 2, developed 300-bbl. daily production after acid. An east offset to the Hanners-Armstrong, Smith Petroleum Co. No. 1 Woodring-Chovich, in the SW NW SE of section 23, came in with 100 bbls. daily production after acid.

Further eastward extension of the so-called midway sector was indicated by Jacob Beck No. 1 Buehler, in the SW SW SW of section 24, which was cased in the Dundee with indications pointing to a commercial producer.

Isabella County—Nottawa Township

After weeks of watching during which trouble of all sorts was encountered, Boston Oil & Gas Co. No. 1 Clara Fox wildcat, in the NE NE NE of section 23, was declared definitely this past week to be a producer. Just how big a producer still was in doubt, as swabbing operations were scheduled after an acid test. Late reports were that the well was not building up gas pressure to any great extent, but assurances were held out that the much-watched well would produce.

North Buckeye Pool

New producers continue to add to the daily production of the north pool, with one test, owing to its position as a western extension, being closely watched as it was being made ready for acid. This test was Daily Crude Oil Co. No. 4 Jacob, in the NW SE SW of section 10, which came in as a 15-bbl.-a-day well naturally The well is approximately 1 mile west of the field's discovery well.

Sun Oil Co. No. 2 Strohkirch, in the SE NE NW of section 10, was completed to top north pool production with 800 bbls. natural production. Sun Oil was acidizing its No. 6 Strohkirch, in the NW NW NW of section 10, and the same company's No. 3 Strohkirch, in the NE NE NE of section 9, was completed and flowed after swabbing, with preparations being made for acid. T. F. Caldwell No. 2 Emmot, in the NE SE SE of section 12, an eastern extension, added 250 bbls. natural production to the field, but also was scheduled for acid treatment. Denver Trust No. 1 Thompson, in the NW SW NW of section 13, another eastern extension of the north pool, came in at 400 bbls. daily natural production as one of the best wells in the sector.

Montcalm County—Winfield Township

Rex Oil & Gas Co.'s wildcat test in Winfield Township, which was attracting considerable attention a week ago, passed the oil showing and drilled into water. Operators prepared to plug back to the show and acidize in an attempt to get a commercial producer. The test was the No. 1 Weatherby, in the NW NW NE of section 28.

Newaygo County

Abandonment orders have been issued for Muskegon Development Co. and Estates Development Co. No. 1 McKinley-Gerber, in the SW NW NW of section 36, Bridgton Township. Drilling is in progress on Muskegon Development Co. No. 1 Carleton, in the NE SW SE of section 9, Home Township. Development was held up last week with a fishing job. The test is drilling below 3,210 feet.

Crystal-Sherman Field

Acid did little to increase the flow of Jetter Drilling Co. No. 1 Loucks, in the NW SE SW of section 12, Crystal Township, Montcalm County. The well is now rated at 10 bbls. daily, with a large volume of water present. Operators plan to plug back to decrease the water content.

Pure Oil Co. reported two completions in its Willey lease in Broomfield Township. Pure No. 8 Willey, in the NW NW NE of section 4, was completed for an estimated daily production of 175 bbls., with acid treatment yet to come. The No. 9 Willey, completed soon after No. 8, was estimated at approximately the same. Six other tests are reported active in the area, and are scheduled to reach casing points within three weeks.

62-Year-Old Bradford Field Reports Another Sliverville Sand Gusher

BRADFORD, Pa., Nov. 1.—Another 40-bbl.-an-hour well, the second in a little more than two months, was drilled this week in the old Bradford field in McKean County, famed for its water-flood production but regarded as dead so far as flowing wells are concerned, by the Minard Run Oil Co. on its lease southwest of the town of Lewis Run.

The location is in the valley 1,200 feet southwest of the Niagara Oil Corp. well on top of Music Mountain, which came in August 24 at the rate of 44 bbls. an hour. Both wells are producing from what is known as the Sliverville sand, named after the lease on which the Niagara well was drilled.

The Minard Run well came in with a rush spouting oil over the top of the 72-foot derrick. Complete preparations were suspended at 1,402 feet, 1 foot in the sand. It is planned to deepen the well. A control casinghead has been installed for this purpose.

Reports from the well at the week-end were to the effect that it was flowing 20 bbls. an hour.

This was the second Sliverville sand test by the Minard Run Oil Co. The first, 1,100 feet south of the Niagara well, failed to find the sand and was completed as a 3-bbl. producer in the deeper Lewis Run sand.

Another test is drilling by Healey Petroleum Co. on its Music Mountain lease, 1,740 feet northeast of the Niagara well. This test is now down 1,500 feet, where operations have been suspended until a control casinghead is obtained.

Texas and Louisiana Gulf

SEABREEZE GAS AREA TURNS OUT PROLIFIC OIL PRODUCER

By F. L. SINGLETON

HOUSTON, Tex., Nov. 1.—The discovery of the first oil production at the Seabreeze gas field, Chambers County, a scheduled production test of an important deep well in the Segno field, Polk County, and extensions and new sand discoveries, were the outstanding developments along the Gulf Coast the past week.

Sun Oil Co. No. 3 Acom, 933 feet south of the discovery well, opened prolific production in the Seabreeze area when it flowed 740 bbls. of 40.5-gravity oil per day through a quarter-inch choke with tubing pressure 1,250 pounds and casing pressure 775 pounds. Production was obtained by perforating the casing at a plugged back depth of 8,415-40 feet. This structure was proven for distillate production in November, 1936, with the completion of the company's No. 1 Acom at an approximate depth of 8,100 feet. No. 3 Acom is the seventh well to be drilled on the structure of which three are producing distillate.

One mile south of production at Segno, Polk County, preparations were being made by Gulf Oil Corp. to test No. 8 Wing which is bottomed in the Cook Mountain horizon at 6,765 feet. Five and one-half inch casing has been cemented at 6,630 feet and a series of production tests will be made in the most promising sands that have been encountered below the Cockfield, or approximately 5,200 feet. The Cook Mountain was topped at 6,518 feet and it is very probable that testing will be started near the bottom of the hole. This is one of the few tests drilled to the Cook Mountain section and regardless of the outcome, valuable geological data has been obtained that will be used in future development.

Hardin Field Extended

The potentialities of the Hardin field, Liberty County, were enlarged with the completion of Strake Petroleum Corp. No. 1 Finley which extended production approximately 6,000 feet, when it flowed 6 bbls. of 51-gravity oil through a quarter-inch choke with tubing pressure 1,300 pounds and casing pressure 2,800 pounds. Production is from perforations at 7,548-53 feet. Locations have been made by the company for No. 2 and 3 Finley being located east and south of No. 1, while Humble Oil & Refining Co. entered the field with the announcement of two locations, No. 1 Partlow in the H. B. Johnson Survey, and No. 1 Chambers in the A. B. Hardin Survey, offsetting Woodley's McMurtry lease in the southwest extension area.

Merit Oil Co. was pulling screen and liner to reperforate No. 1 Wright at the Cedar Bayou Prospect, Chambers County, after it flowed pipe line oil at the rate of 10 bbls. per hour and then went dead. The well started flowing from perforations at 6,424-34 feet, after it had been swabbed for 30 hours. Location is in the Christian Smith Survey.

At the LaBelle field, Jefferson County, Sun Oil Co. No. 1 Ward was tested through perforated casing at 8,760-75 feet and showed 14 joints of mud with no oil or gas. In the North Cheek field, Magnolia Petroleum Co. No. 1 Phelan, the discovery well, originally completed as a distillate producer at a plugged back depth of 8,400 feet, and then deepened after the company's second test was completed for a large oil well, is drilling below 8,800 feet and has failed to pick up the sand of the second well.

Disappointment in New Pool

The second well to be drilled in the recently opened Call field, Newton County, has proved disappointing as it is coring in shale below 7,320 feet and has failed to the discovery sand. Sand with small show of oil was cored at 6,914-18 feet, but on a drill stem test at 6,908-18 feet, it tested 27 thribbles of salt water with no oil or gas. It is about 1,700 feet northeast of the discovery well in section 42, H.&T.C. Survey.

In the Spurger field, Tyler County, additional sands continue to be cored in Republic Production Co. and Houston Oil Co. No. 5 Hurd located 933 feet due east of No. 3 Hurd. Drilling continues below 7,800 feet and it is possible that an exploratory test will be made of the well. Sands showing oil and gas have been encountered at 7,635-37 feet and from 7,690-7,711 feet.

The second producer for the Kubella area, northwest of the Pickett Ridge field, Wharton County, has been indicated by the favorable showing of Gilcrease Oil Co. No. 1 Duson. While drill stem was coming out of the hole after making a test through perforations at 4,689-93 feet, the well began heading and flowing 21-gravity oil, and screen and liner is being run for a production test. This area which is about 1½ miles northwest of the Pickett Ridge field proper was opened the latter part of 1936 by the Texas Crusader Oil Co. No. 1 Kubella that was completed for a small producer through perforations at 4,575-78 feet.

Drilling activity in Jackson County continues to increase with the announcement of another wildcat location. It is located northwest of LaWard in Lot 65 of the I.&G.N. Survey No. 7, Block 1, and is being drilled by Cockburn & Hargrove on the W. L. Hodges lease. The other test is being drilled by the same operators, and is located north of LaWard on the Strauss lease in the A. N. Clare Survey. Several major companies are reported to have purchased protection around both tests.

In Liberty County, Humble Oil & Refining Co. has derrick up for No. 1 E. F. Moore located in the M. Whittington Survey. This is the second wildcat to be started in this county by the company. Its No. 2 Sabine Tram in the same survey is drilling below 9,200 feet after topping the Cockfield at 8,775-8,800 feet.

New Sand Discoveries

In the Lower Gulf Coast, new sand discoveries were recorded for the Refugio and McFaddin fields in Refugio and Victoria counties. Pearson Properties No. 1-B Ryals Estate on the east side of the Refugio field has been completed for a distillate producer, opening a new sand at 6,775-6,809 feet. It is an old well having been originally completed in the 5,700-foot sand. Across the line in Victoria County, Transwestern Oil Co. opened a second producing area with the completion of No. 1 McFaddin which flowed 114 bbls. per day through a three-sixteenths inch choke with 1,225 pounds working pressure on the tubing and shut in casing pressure 1,400 pounds. Production is from a screen setting at 4,498-4,506 feet, the total depth. Production is from the Greta sand or the Heterostegina section.

The northern limits of the Hastings field was apparently defined with the abandonment of R. M. Stevens and others No. 1 L. Barnes which was quit at 6,125 feet. The well is located approximately 1½ miles northwest of the nearest production in the W. D. C. Hall Survey.

In the Friendswood field, Harris County, Humble Oil & Refining Co. No. 3 Beamer, T. Choate Survey, flowed 740 bbls. per day through a quarter-inch choke from a screen setting at 5,700 to 5,940 feet, the total depth. Drilling has started at the same company's No. 1 DeGeorge in the T. Choate Survey while Circle Oil Co. has rigged up for No. 1 E. B. Ross, a semiwildcat test in the George Dedrick Survey, just south of the Genoa townsite.

Three wells were scheduled to be completed at the Magnet field, Wharton County. Humble Oil & Refining Co. No. 3 Cockburn is bottomed in sand at 5,540 feet with 5½-inch casing cemented at 5,535 feet. Texas Crusader Oil Co. No. 3 Cockburn is bottomed at 5,540 feet with 7-inch casing cemented at 5,534 feet. West of production approximately 660 feet, Atlantic Refining Co. No. 6-B Cockburn cored sand from 5,518-40 feet and casing is being cemented for a production test.

Louisiana Coast

Along the Louisiana Coast, Humble Oil & Refining Co. completed its second oiler in the recently opened North Crowley field, Acadia Parish. No. 1 Anton Ohlenforst, northeast of the discovery well, perforated casing at 8,101-05 feet and flowed 32 bbls. of 36-gravity oil per hour through a quarter-inch choke with casing pressure 2,150 pounds and tubing pressure 2,200 pounds. Location is in section 45-8s-1e.

In the Quarantine Bay area, Plaquemines Parish, Gulf Oil Corp. was attempting a drill stem test at No. 3 State after sand and sandy shale showing oil was cored at intervals from 8,127-44 feet. This is the second showing that has been encountered. A previous core at 6,464-72 feet showed broken sandy shale showing oil. Location is in section 17-19s-17e.

In the Timbalier Bay area, Lafourche Parish, Gulf Oil Corp. planned to do considerable geophysical work around its Salt dome structure which was proven by No. 3 State. After the salt was topped at 7,741 feet, the formation was cored to a total depth of 8,728 feet. Two short strings of casing consisting of 302 feet of 7-inch at 7,082 feet and 1,635 feet of 5-inch at 8,728 feet have been cemented and a series of geophone tests will be made. The dome is located in section 36-23s-21e.

On the southeast side of the Roanoke field, Jefferson Davis Parish, Superior Oil Co. is moving in material for No. 1 O. E. Ferguson in section 13-9s-4w. It is three-quarters of a mile from production and is being drilled on a farm-out lease from Humble Oil & Refining Co.

At Abbeville, Vermilion Parish, Continental Oil Co. was preparing to test No. 1 Brookshire after plugging back from a total depth of 11,909 feet to 11,109 feet. Casing was perforated at 10,940-45 feet and the hole is being washed. It is located approximately 2,000 feet west of the discovery well which is producing distillate at approximately 5,700 feet.

Humble Oil & Refining Co. No. 1 Ellender, the discovery well of the Lirette field, Terrebonne Parish, originally completed below 11,000 feet and then plugged back due to salt water encroachment has been officially completed for an initial production of 4 bbls. of distillate per hour through a three-sixteenths inch choke with tubing pressure 4,000 pounds. It is making 1,200,000 feet of gas daily.

In eastern Cameron Parish, Shell Petroleum Corp. is moving in material for No. 1 Hanzen, a wildcat in section 22-12s-6w. This is the third wildcat location to be made by this company within the past two weeks and brings the total number of wildcat activities in this parish to 28.

In the Bayou DeAllemands field, St. Charles Parish, Amerada Petroleum Corp. is running casing preparatory to testing No. 1 St. Charles Land Co. located 945 feet due west of the discovery well. Broken sand and shale showing oil and gas was cored from 6,808-28 feet, the total depth. This is the second well to be drilled in the field and the producing sand was encountered slightly higher than the discovery well.

Shell Petroleum Corp. has added another deep producer for the Gibson field, Terrebonne Parish, by the completion of No. 3 Pelican in section 19. At a plugged back depth of 9,506 feet, it flowed at the rate of 996 bbls. per day through a quarter-inch choke.

Chicago Special Train Change

Due to change in program of the American Petroleum Institute meeting, to be held in the Stevens Hotel, Chicago, November 8-12, inclusive, the special train via the Santa Fe will now leave Chicago on return trip, Friday, November 12, at 4 p.m., arriving in Tulsa 8:30 a.m., Saturday, November 13, and the special train via the Frisco will leave Chicago at 5 p.m.

GULF COAST WATER SHIPMENTS FOR AUGUST, 1937

Sabine District

Company, terminal—	Crude — Coastwise	Crude — Export	Refined — Coastwise	Refined — Export	Total
Atlantic Pipe Line Co.:					
Atreco	1,494,200	258,571	.....	.....	1,752,771
Continental Oil Co.:					
Tepetate	235,470	.....	.....	.....	235,470
Fohs Oil Co.:					
Burtons	154,002	.....	.....	.....	154,002
Gulf Oil Corp.:					
Port Arthur	610,877	.....	3,174,783	49,743	3,835,403
Magnolia Pet. Co.:					
Beaumont	757,623	67,107	*2,359,376	.....	3,184,106
Lockport	71,529	.....	.....	.....	71,529
Pure Oil Co.:					
Smiths Bluff	209,600	100,400	1,046,551	.....	1,356,551
Shell Pet. Corp.:					
Haymark	76,719	92,443	.....	.....	169,162
Stanolind Crude Pur. Co.:					
Beaumont	421,933	676,811	.....	.....	1,098,744
Sun Oil Co.:					
Beaumont	1,207,518	122,409	.....	.....	1,329,927
Superior Oil Co.:					
West Lake	76,460	.....	.....	.....	76,460
Texas Co.:					
Port Arthur	1,397,472	454,420	3,067,779	967,479	5,887,150
Union Sulphur Co.:					
Lockport	318,990	.....	.....	.....	318,990
Total	7,032,393	1,772,161	9,648,489	1,017,222	19,470,265

Mississippi District

Shell Petroleum Corp.:					
Norco	.....	.....	237,323	.....	237,323
Standard Oil Co. of La.:					
Baton Rouge	347,701	89,864	608,101	412,885	1,458,551
Anchorage	246,641	.....	.....	.....	246,641
Texas Co.:					
Amesville	157,086	.....	.....	.....	157,086
Pilot Town	.....	84,428	.....	.....	84,428
Total	751,428	174,292	845,424	412,885	2,184,029

Corpus Christi District

Amsco Ref. Co.:					
Corpus Christi	.....	30,898	.....	73,351	104,249
Atlantic Pipe Line Co.:					
Harbor Island	655,950	.....	.....	.....	655,950
Corpus Christi Ref. Co.:					
Corpus Christi	47,494	.....	378,233	.....	425,727
Crude Oil Terminal Co.:					
Corpus Christi	138,307	.....	24,346	.....	162,653
Gen. American Terminal:					
Corpus Christi	242,182	.....	216,873	85,636	544,691
Humble Oil & Ref. Co.:					
Harbor Island	2,911,667	79,298	.....	.....	2,990,965
Ingleside	29,437	.....	.....	.....	29,437
Magnolia Pet. Co.:					
Corpus Christi	305,840	.....	.....	.....	305,840
Republic Pipe Line Co.:					
Corpus Christi	.....	185,139	.....	.....	185,139
Southern Minerals Corp.:					
Corpus Christi	.....	272,956	.....	.....	272,956
Total	4,330,877	568,291	619,452	158,987	5,677,607

Houston-Texas City District

American Liberty P. L. Co.:					
Norsworthy	186,623	231,537	.....	.....	418,160
Atlantic P. L. Co.:					
Texas City	202,308	.....	4,169	.....	206,477
Eastern States Pet. Corp.:					
Houston	.....	.....	249,880	.....	249,880
Humble Oil & Ref. Co.:					
Baytown	31,622	129,823	2,903,901	1,317,090	4,382,436
Texas City	943,308	126,587	.....	.....	1,069,895
Independent Terminal Co.:					
Texas City	.....	.....	162,000	75,000	237,000
Republic Oil Ref. Co.:					
Texas City	.....	.....	222,000	130,000	352,000
Shell Petroleum Corp.:					
Houston	.....	359,055	1,493,104	148,013	2,000,172
Sinclair Ref. Co.:†					
Houston	1,283,509	69,097	.....	.....	1,352,606
Stone Oil Co.:					
Texas City	.....	.....	56,000	134,600	190,600
Texas Co.:					
Houston	546,486	.....	.....	.....	546,486
Tide Water Assoc. Oil Co.:					
Clinton	292,949	.....	.....	.....	292,949
Miscellaneous	.....	157,794	3,465,931	2,238,206	5,861,931
Total	3,486,805	1,073,893	8,556,985	4,042,909	17,160,592

Rio Gande Valley District

Valley Pipe Line Co.:					
Port Isabel	.....	53,917	167,556	.....	221,473

Total All Districts

Sabine	7,032,393	1,772,161	9,648,489	1,017,222	19,470,265
Houston-Texas City	3,486,805	1,073,893	8,556,985	4,042,909	17,160,592
Corpus Christi	4,330,877	568,291	619,452	158,987	5,677,607
Mississippi	751,428	174,292	845,424	412,885	2,184,029
Rio Grande Valley	.....	53,917	167,556	.....	221,473
Total	15,601,503	3,642,554	19,837,906	5,632,003	44,713,966

*Includes export. †Refined shipments included in miscellaneous.

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West and North Texas

WILDCATTERS REACH OUT TO NEW SPOTS IN SEARCH OF OIL

By L. E. BREDBERG

FORT WORTH, Tex., Oct. 31.—Pool extensions, dry holes and new wildcat locations combined again to make an interesting and active week in the Permian Basin in West Texas.

The Harper field, discovered over five years ago, has been one of the slowest to have been developed in Ector County, but during the past few months operators have been active in drilling their leases in the area, and several important extensions have been made to the field, expanding it over an area 4 miles in length from southeast to northwest and about 2½ miles in width. It is defined on the east, southeast and south, but has plenty of room to expand further on the north and west.

Fred Turner, Jr., of Midland, extended the field another 1¼ miles to the east, on the northern side, in the past week, when his No. 1-A J. E. Parker, in the southeast of the southwest quarter of section 16, Block 44, Township 2s, T.&P. Survey, topped the lime pay at 4,085 feet, picking up an increase at 4,094-4,112 feet, which filled the hole with oil. However, it is drilling below 4,210 feet, in lime, and will either be shot or acidized, or both, before it is completed. This extension is west of the Carter-Naylor well which recently extended the field over 2 miles to the northwest.

The Goldsmith field has been extended another mile to the north by the Landreth Oil Corp. No. 1-M Scharbauer, in section 21, Block 44, Township 1n, T.&P. Survey, expanding that Ector County field over at least another 640 acres. The well made 1,410 bbls. through a 1-inch choke, from lime logged at 4,132-96 feet, after acidizing with a two-stage treatment of 5,000 gallons. The well also showed over 1,000,000 feet of gas.

Wildcat Locations

Among the important wildcat locations staked in the district was one in Borden County which has seen no activity of late. Continental Oil Co. staked this location on the Clayton farm, in section 27, Block 32, Township 4n, T.&P. Survey, in the southwestern quarter of the county, in which quarter several dry holes were drilled in the past.

Mitchell & Sullivan made a location for a wildcat in the west central part of Gaines County, section 447, Block G, C.C.S.D.&R.G.N.G. Survey, about 4½ miles south of a previously drilled dry hole.

To Deepen in Edwards County

An old test carried to 3,002 feet in Edwards County, on the southeastern side of the West Texas district, and in the Edwards Plateau region, is being rigged to be carried deeper by Richmond Drilling Co. It is on the Brown ranch, in the northeastern corner of section 66, Block 3, G.W.T.&P. Survey. The Indian Territory Illuminating Oil Co. drilled this test to its present depth. It is to be carried to 6,250 feet with cable tools by the new operators, or to about 300 feet in the Ellenberger lime, lower Ordovician member. The well is on a block of 4,400 acres, about 13 miles east of Rock Springs.

Another test for Edwards County will be that of Dan Auld on the Henderson ranch, in the northeast corner of section 46, H.E&W.T. Survey, and a Menard test is to be drilled by G. A. Clements of Abilene and associates on the A. H. Murchison ranch, 7 miles east of Menard, in the southwest corner of section 80, Boeddecker Survey, 1½ miles northwest of Grafa and others No. 1 Kothmann, abandoned last spring at 1,128 feet, in the Ellenberger. The operators are under contract to drill a couple of shallow tests on their block in this area.

Northern Wildcats

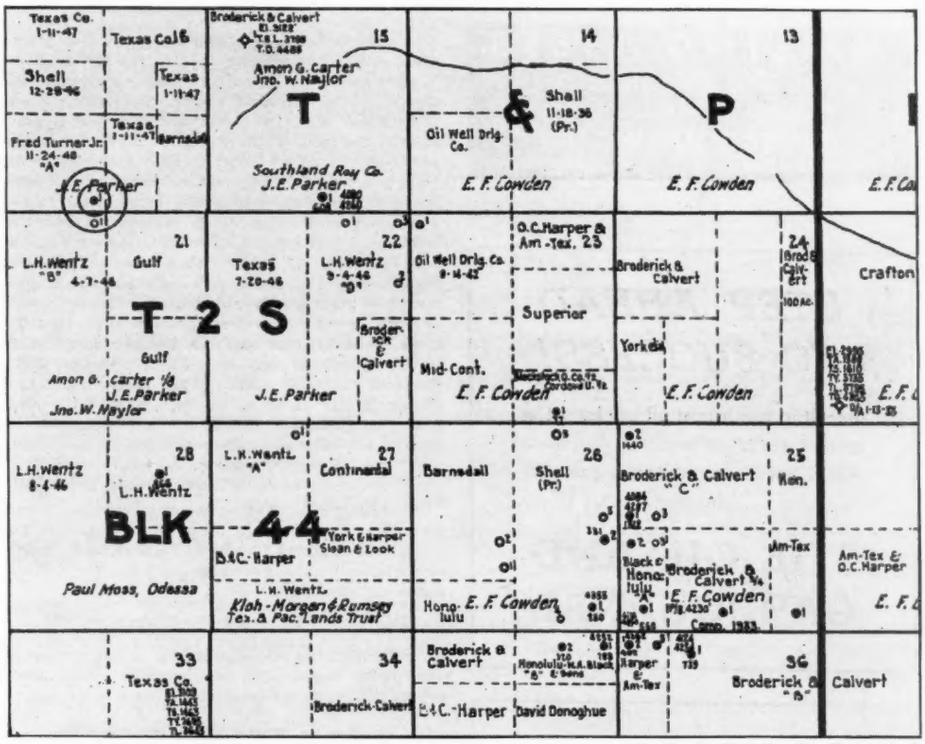
Jumping to the north end of the district, Julian R. Meeker of Fort Worth is to sink a 5,200-foot wildcat in the east central part of Cochran County. Location has been made near the center of the southeast quarter of Labour 26, League 96, Mills County School Lands, and several major companies have taken acreage in the area to support the drilling of the test. It is about 5 miles north of Wiggins and others No. 1 Dean, which is a small producer, either extending the Duggan field or opening a new field for the county.

Pecos County and Upton County each received a new wildcat location. Thompson & Minshall are to drill on the Michaelson tract in section 24, Block 146, T.& St.L. Survey, and in Upton County, Rutter and others will drill on the Egolb lands in section 5, J. H. Gibson Survey.

Grisham-Hunter Corp. of Abilene, is preparing to drill a 4,000-foot wildcat 4½ miles southwest of Stamford, in northeastern Jones County. This test, located on the E. D. Appling lands, in section 32, Block 1, and Roeser & Pendleton, Inc., No. 1 E. W. Rosenquist, NW quarter of section 181, B.B.B.&C. Survey, got a hole full of water in the base of the Palo Pinto lime pay horizon at 3,358-70 feet, and were preparing to plug. This is about 3 miles north of the discovery well on the Olander farm. Two outpost tests are drilling between it and the discovery well, both of which are reported running high on structure.

Crane Extensioner

In the Jordan-University area in northwestern Crane County, Sinclair Prairie Oil Co. No. 2-27 University, located in the NW quarter of section 12, Block 35, made 258 bbls. of oil in 1 hour and 28 minutes from pay topped at 3,547 feet. Total depth is 3,565 feet. It is one-half mile east of the largest producer in the field, the Texas Co. No. 1-D University, which a couple of



Southwest Mapping Co., Fort Worth

Map showing another western extension to the Harper field in Ector County, Fred Turner, Jr., extending the field over a mile on the J. E. Parker lands

B.B.B.&C. Survey, will seek oil from the Palo Pinto lime horizon in the Canyon series, the pay horizon found in the Avoca field in the northeastern corner of the county.

In southeastern Jones County, Ungren & Frazier of Abilene are moving in materials for a 2,000-foot test on lands of the Manley heirs, in section 44, Block 15, T.&P. Survey. It is about 2 miles north of a wildcat now drilling. S. J. Hufstutler and others are preparing to drill a wildcat about 5 miles north of Abilene, and in Jones County. Location is in Subdivision 4, Alexander Thompson Survey No. 20.

Avoca Field

The Avoca area in northeastern Jones County, reported its first setback when Oil States Exploration Co. weeks ago gauged 11,576 bbls. per day at 3,527 feet, and also but one-half mile west of a dry hole. This area is expected to eventually be linked with the Penn field to the north in Ector County, a couple of producers having been drilled on acreage located on the trend between the two pools.

Failure in Gaines

Ralph H. Gill No. 1 S. R. Thompson, in section 8, Block C-44, P.S.L. Survey, 7 miles southeast of the Seminole field in Gaines County, proved a failure when it struck sulfur water in lime at 5,462 feet, and drilled to 5,503 feet. It is shut down for orders.

The 1-mile north extensioner well in the Means field in northeastern Andrews County also appears as an edge well on that side of the field. It is M. J. Delaney

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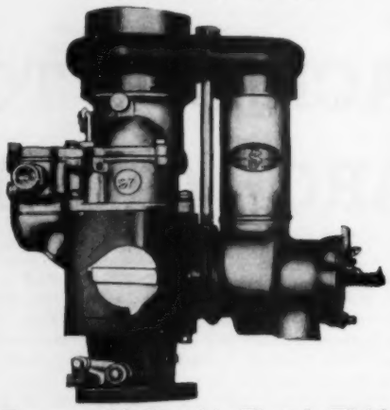

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FORT WORTH, TEXAS

No. 1 H. A. Moore, in the SW quarter of section 12, Block A-20, P.S.L. Survey. The hole was bottomed at 4,579 feet and shot and acidized. It pumped only 13 bbls. of oil and 355 bbls. of water on a 24-hour test, which is far below the average commercial production of the other producers in the field.

Leasing in Lamb County

John W. Murchison, Plainview, Tex., has assembled a block of 17,000 acres due north of Littlefield in the south central portion of Lamb County, and turned it to T. L. Wynne of the American Liberty Oil Co. of Dallas. A test is expected to be started to 5,500 feet within a couple of months, but the location has not been reported. This county adjoins Bailey County on the east and Hockley County on the north. Two tests are drilling in Bailey and there are two producers in the lone field in southwestern Hockley County. No tests are now going down in Lamb County.

WEST CENTRAL AND NORTH TEXAS

Southwestern Shackelford County is to gain a deep test seeking production from the Palo Pinto lime section of the Canyon series. Groover & Rose, F. Craig and Hugh King, Jr., are interested in the test, which will be in section 55, Block 13, T.&P. Survey, on the Davis and Walker lands. A number of operators have taken protection acreage in the spread around the location. Roeser & Pendleton, Inc. are drilling a deep test on its acreage in the Cook pool in the western part of Shackelford County. It is known as No. 28-A W. I. Cook, and is now below 2,525 feet. It is in the center of the Cook field in which there are 285 shallow producers in the Cook sand.

Kemp City Activities

All North Texas is talking about the deep production being found and extended in the K-M-A (Kemp, Munger, Allen) or Kemp City field, surrounding that city in northern Wichita County. Although the deep pay horizon, the Strawn sand and lime, was found in 1930 by the Deep Oil Development Co., which was organized by a group of Wichita Falls operators for the main purpose of drilling and seeking deep production in the various shallow producing areas in the district, it was not until comparatively recently that the field became so important and active. Now there are 32 deep tests drilling in the field with a number shut down on top of the sand preparatory to drilling in and completing. Five important deep outposts appear as potential producers and consequent extensioners to the field. The Clyde-Texan, Ltd. test on the A. Burnside lands, in the Sharpe Survey, appears as a 3½-mile eastern extension well and W. H. Hammon and others No. 1 A. F. Fassett, in the E.T.R.R. Survey, north of the river, looks like a 4-mile northeastern extensioner, with a 2-mile western extension appearing in Kadane and others No. 1 C. A. Mangold in the P. Castleman Survey. All three have cored the pay and are preparing to complete.

Practically all of the wells are given nitroglycerin shots before completing. Deep Oil Development Co., the largest holder of acreage in the area, has a repressuring plant and is recycling gas from the wells to repressure and produce them.

Acreage has been changing hands in the field during the past few months, and especially within the past several weeks, the prices increasing as new extensions were being made. The production is coming from depths varying in the sand from 3,700 to 4,000 feet.

CENTRAL TEXAS COMPLETIONS

Callahan County

H. B. Herring No. 1 Q. Loven, 2,106 feet, dry and abandoned. Mesa Verde Oil Co. No. 3 E. T. Klepper, 1,714 feet, dry and abandoned.

Jack County

Cockburn Oil Co. No. 4 Box, oil sand broken 3,140-77 feet, 334 bbls.; No. 5 Clayton, 3,024-31 feet, 421 bbls. in 21 hours. H. R. Edwards No. 1 Clayton, 3,100 feet, dry and abandoned. Long & Wolfe No. 2 Smith, oil sand 2,943-80 feet, 403 bbls. Yorktex & States No. 7 Clayton B, 3,011-51 feet, 163 bbls.

Jones County

Falls Refining Co. No. 1 Harris, 2,200 feet, dry and abandoned. R. H. Isaacoson and others No. 1 Coker, 2,665 feet, dry and abandoned. John Kraker and others No. 1 Shankles, sandy lime 1,993-2,002 feet, 50 bbls. S. B. Owens No. 3 Gilbreath, sandy lime 1,969-92 feet, 437 bbls. Ungren & Frazier No. 1 Dorsey H, sandy lime 2,155-75 feet, 177 bbls.

Coleman County

Anzac Oil Corp. No. 19 Overall, lime 2,516-20 feet, 3,250,000 feet of gas. McDonald & Campbell No. 1 Nelson, 1,483 feet, dry and abandoned. George Poulter No. 1 Overall, 2,502 feet, total depth.

Shackelford County

Albany Oil Co. and Pardue No. 14 Davis, sand 1,573-96 feet, 12 bbls. Chartier Oil Co. No. 3 Davis, sand 1,600-17 feet, dry and abandoned. Hickok & Reynolds No. 8 Nail, 1,522-30 feet, 100 bbls.

Stephens County

Clark & Cowden No. 2 Echols, 4,017 feet, dry and abandoned.

NORTH TEXAS COMPLETIONS

Archer County

Duncan & Marchman No. 9 Mrs. N. I. Andrews, 962-90 feet, 25 bbls. S. H. Huggins and others No. 1 J. J. Perkins, 1,797 feet, dry. Shappell Oil Co. No. 6 John Conner, 1,106-10 feet, 10 bbls. M. Staniforth No. 18 T. B. Wilson, 1,597-1,608 feet, 45 bbls.

Clay County

W. H. Clark No. 1 C. Scherr, 1,007 feet, dry. Sussex Oil Corp. No. 8 C. J. Shumake, 1,147-50 feet, 56 bbls.

Cooke County

A. D. Robinson No. 9 J. H. Otto B, 818-32 feet, 21 bbls. Trumter Oil Co. No. 11 C. T. Andress and others, 763-80 feet, 50 bbls.

Montague County

Arco Oil Co. No. 12 Mrs. M. H. Salmon E, 1,597-1,640 feet, 110 bbls.; No. 13 Mrs. M. H. Salmon E, 1,630-68 feet, 10 bbls. A. & S. Raizen No. 7 N. J. Howard and others, 1,172-91 feet, 10 bbls. Sinclair Prairie No. 2 W. C. Combs, 1,892 feet, dry.

Wichita County

Coleman & Coppock No. 11 G. R. Hoge, 859 feet, dry. Perkins & Cullum No. 8 S. B. Burnett and others A, 1,608 feet, dry. Petroleum Production Co. No. 77 First National Co., 3,660-3,849 feet, 600 bbls.; No. 1 First National Co. G, 3,676-3,850 feet, 720 bbls. Pois & Schulz No. 1 Richard Ramming, 2,005 feet, dry.

Wilbarger County

Cosden Oil Corp. No. 9 W. T. Waggoner B, 2,620-30 feet, 60 bbls. King Oil Co. No. 1 R. L. Castleberry, 2,168-80 feet, 300 bbls. Phillips Petroleum Co. No. 202 Waggoner Ranch, 2,056-80 feet, 750 bbls.; No. 2 W. T. Waggoner KKK, 2,560-78 feet, 65 bbls. The Texas Co. No. 7 W. T. Waggoner B, 2,400-04 feet, 57 bbls.

Young County

Fresno Oil Co. No. 1 H. O. Prideaux, 851 feet, dry. Hardy Oil Co. No. 14 S. M. J. Benson, 867-75 feet, 10 bbls. T. D. Humphrey No. 1 E. M. Ball, 3,807-3,907 feet, 1,100 bbls. Homer Lee No. 10 J. L. Boone, 502-10 feet, 10 bbls. West & Honea No. 4 B. N. Honea, 821-45 feet, 15 bbls. Henry Zweifel No. 1 Aller Co., 725-33 feet, 1,500,000 feet of gas; No. 1 Harrison, 2,651 feet, dry.

PANHANDLE DISTRICT

Carson County

British American Oil Co. No. 2 Block, 3,080 feet, 460 bbls. on pump. Great West Oil Co. No. 1 Block, 3,168 feet, 477 bbls. on pump. Holmes and others No. 8 Quinn, 3,097 feet, 687 bbls. on pump. McGill and others No. 4-B Cooper, 3,122 feet, 733 bbls. on pump.

Gray County

Danciger Oil & Refining Co. No. 16 Powell-Beck, 2,922 feet, 243 bbls. on pump. Kewanee Oil & Gas Co. No. 22 Smit-Rest, 3,250 feet, 517 bbls. on pump. Magnolia Petroleum Co. No. 16 Harrah, 3,205 feet, 249 bbls. on pump. Stanolind Oil & Gas Co. No. 3 Hood, 3,095 feet, 398 bbls. on pump.

Hutchinson County

J. E. Crosbie No. 18 Pitts, 3,051 feet, 720 bbls. on pump; No. 23 Pitts, 2,984 feet, 690 bbls. on pump. Gulf Oil Corp. No. 74 Dial, 3,096 feet, 253 bbls. on pump.

Phillips Petroleum Co. No. 1-A Supreme, 3,248 feet, 347 bbls. on pump. Seaboard Oil Corp. No. 2 Whittenburg, 2,723 feet, 352 bbls. on pump. Stanolind Oil & Gas Co. No. 6 Terry, 2,963 feet, 393 bbls. on pump; No. 14-A Watkins, 2,891 feet, 367 bbls. on pump; No. 4-B Watkins, 2,913 feet, 444 bbls. on pump; No. 5 Watkins, 2,868 feet, 496 bbls. on pump. Stayton Oil Corp. No. 4-B Moore, 3,145 feet, 250 bbls. on pump. Stekoll Oil Co. No. 7 Dial-Perkins, 3,025 feet, 383 bbls. on pump.

Moore County

Canadian River Gas Co. No. 2-A Read, 3,500 feet, 48,400,000 feet of gas.

Wheeler County

Columbian Fuel Co. No. 5 Bentley, 2,348 feet, 170 bbls. on pump. Dumar Oil & Gas Co. No. 1 George, 1,895 feet, 8,935,000 feet of gas. H. Ewton No. 2 Evans, 2,452 feet, 110 bbls. on pump. Lela Oil & Gas Co. No. 10 Laycock, 2,650 feet, dry and abandoned. R. A. Nipper No. 1 Walker, 2,440 feet, 20 bbls. on pump.

WEST TEXAS COMPLETIONS

Cochran County

Texas Co. No. 1 Slaughter, 4,967 feet, plugged back to 4,868 feet, dry and abandoned.

Crane County

Gulf Oil Corp. No. 160 McElroy, 2,920-3,046 feet, shot, 316 bbls. Humble Oil & Refining Co. No. 14 Tubbs, 4,350-4,430 feet, acidized, 1,260 bbls. Sinclair Prairie Oil Co. No. 2 Tubbs, dry and abandoned 6,391 feet, elevation 2,552 feet, top Ellenberger 6,190 feet.

Ector County

Amerada Petroleum Corp. No. 2 Cummins, 4,191-4,255 feet, acidized, 676 bbls. through 1-inch tubing. Atlantic Refining Co. No. 3 Slator, 4,170-4,290 feet, shot and acidized, 858 bbls. W. B. Black & Sons No. 5 Connell, 3,520-3,614 feet, shot, 519 bbls. Broderick & Calvert No. 2-C Cowden, 4,040-4,280 feet, shot, 1,443 bbls. Continental Oil No. B-35-4 Rumsey, 4,210-70 feet, shot and acidized, 655 bbls. Devonian Oil Co. No. 6-A Scharbauer, 4,158-4,208 feet, acidized, 883 bbls. through three-quarters inch choke; No. 1-C Slaughter, 4,174-4,218 feet, acidized, 1,210 bbls. General Crude Oil Co. No. 4 Cummins, 4,160-4,260 feet, shot, 539 bbls. through one-half inch tubing. Gulf Oil Co. No. 44 Goldsmith, 4,170-4,210 feet, shot and acidized, 852 bbls.; No. 45 Goldsmith, 4,190-4,245 feet, acidized, 2,044 bbls.; No. 47 Goldsmith, 4,150-4,210 feet, acidized, 1,224 bbls. Landreth Oil Corp. No. 1-L Scharbauer, 4,145-92 feet, acidized, 645 bbls.; No. 1-M Scharbauer, 4,132-96 feet, acidized, 1,410 bbls. through 1-inch choke. Shell Petroleum Corp. No. 4 University, 3,490-3,665 feet, shot, 135 bbls. Sinclair Prairie Oil Co. No. 3 Connell, 3,448-3,861 feet, shot, 395 bbls. Shell Petroleum Corp. No. 1 Slator, 4,190-4,287 feet, acidized, 624 bbls. Stanolind Oil & Gas Co. No. 7 Roberts, 4,162-4,326 feet, shot, 1,614 bbls. Texas Co. No. 18 Connell, 3,448-3,615 feet, shot, 165 bbls. W. K. Royalty Co. No. 1 Amerada-Smith, 4,180-4,338 feet, shot, 253 bbls.

Fisher County

British American Oil Co. No. 1 M. A. White, dry and abandoned 3,603 feet, elevation 1,991 feet. Lewis Production Co. No. 3 Morrow, 3,535-39 feet, 904 bbls. Sunray Oil Co. No. 2 Robinson, 3,537 feet, 939 bbls.

Glasscock County

Lippitt & Letwin No. 5-C McDowell, dry and abandoned 2,448 feet, elevation 2,541 feet.

Howard County

Magnolia Petroleum Co. No. 21 Roberts, 2,534-82 feet, 964 bbls. on pump. W. E. Production Co. No. 1 Wilcox, 3,125-3,237 feet, shot, 130 bbls. on pump.

Loving County

Continental Oil Co. No. 1 Marrs, dry and abandoned 4,344 feet, elevation 2,894 feet.

Nolan County

Ingleright & Hults No. 1 Cochran, dry and abandoned 4,063 feet, elevation 2,455 feet.

Pecos County

Paul Childress, trustee, No. 23 Smith, 393-408 feet, 6 bbls. oil and 6 bbls. water on pump. Humble Oil & Refining Co. No. 16-A Smith, 1,600-76 feet, 2,082 bbls. per day. B. C. Mann No. 2-A University, 1,606-30 feet, acidized, 253 bbls.

Upton County

Atlantic Refining Co. No. 6 Sherk, 2,298-2,350 feet, shot and acidized, 627 bbls. on pump. Basin Oil Properties No. 3-B Baker, 2,322-70 feet, acidized, 1,025 bbls. Breeding & Simco No. 4 Elder, 2,206-2,384 feet, acidized, 985 bbls. on pump. Cardinal Oil Co. No. 3-C Wooley, 2,110-74 feet, acidized, 286 bbls. on pump. Clark and others No. 2 Perry, 2,145-74 feet, acidized, 127 bbls. on pump. Continental Oil Co. No. 15 Reese, 2,535-2,634 feet, 518 bbls. on pump. J. W. Emch No. 4 Lyon Estate, 2,248-62 feet, acidized, 204 bbls. on pump. R. E. Mac Carter No. 1 Cordova-Union, dry and abandoned 2,653 feet, elevation 2,608 feet.

Ward County

Gulf Oil Co. No. 58 Estes, 2,545-2,670 feet, shot, 773 bbls.; No. 88 Hutchins, 2,645-2,760 feet, shot, 1,233 bbls. Humble Oil & Refining Co. No. 20 Richter, 2,548-2,605 feet, shot, 552 bbls.

Winkler County

Adams & Bradley No. 8 Edwards, 3,105-40 feet, 942 bbls. fluid, 55 per cent oil, remainder water. Champlin & Bass No. 7 Hess, 3,058-78 feet, acidized, 2,500 bbls. Bert Fields No. 4-A Cowden, 2,910-96 feet, shot, 585 bbls. Humble Oil & Refining Co. No. 20-C Colby, 2,819-3,075 feet, shot, 331 bbls., 4 per cent b.s.&w.; No. 8-B Walton, 2,787-3,073 feet, shot, 187 bbls. Magnolia Petroleum Co. No. 107 Walton, 2,845-2,951 feet, shot, 979 bbls.; No. 7 State-Walton, 2,839-3,257 feet, shot, 762 bbls.; No. 8 State-Walton, 3,280 feet, 15,000,000 feet gas. Richardson Oils, Inc., No. 4 Walton, 3,341-76 feet, 192 bbls. through one-thirty-second inch choke.

Eastern Fields

(Continued from Page 64)

being produced from the Salt sand at 1 bbl. a day.

In Putnam County, V. C. Smith and others completed No. 2 W. H. Gibson in Teays Valley district at 2,034 feet. It is a Berea sand well gauging 400,000 feet a day.

In Ritchie County, the Mud Lick Oil and Gas Co. completed a gas well on the S. H. Phillips farm in Union district in Injun sand at 1,946 feet. It is good for 200,000 feet a day. In Grant district, Richards and Moats drilled a test on the B. W. Cowell farm through the Keener sand to 1,845 feet and it was dry and abandoned.

In Wayne County, the Finance and Service Co. completed No. 5 V. L. Lusher in Union district as a gas well at 3,458 feet. Brown shale 2,600-3,244 feet and 135,000 feet of gas from the shale. The Corniferous lime was topped at 3,458 feet.

In Wirt County, W. C. Patterson drilled C. E. Vandevender No. 26 in Clay district through the Cow Run sand to 415 feet and it was dry.

Oriskany Gas Field

In Poca district, Kanawha County, the Spartan Gas Co. completed the Susan Legg and others test at 4,696 feet, the Oriskany sand, and it gauges 9,768,000 feet a day. In this district, the United Carbon Co. completed the H. F. Miller and others test at 4,921 feet, the Oriskany sand which was topped at 4,884 feet, and it gauges 3,425,000 feet a day.

In Poca district, Mullins Gas Co. is completing a test on the Campbell and Odell lease with the Oriskany sand topped at 4,984 feet and 963,000 feet of gas showing with the tools at 4,995 feet.

In Elk district, the Columbian Carbon Co. completed a test on the Nellie M. Sleath farm at 4,989 feet with a gauge of 1,291,000 feet a day from the Oriskany sand. In this district, the same company is completing a test on the Nona J. Fagarty farm with the tools at 5,197 feet and a gauge of 2,653,000 feet of gas from the Oriskany.

Two new locations were made in Poca district. The United Fuel Gas Co. made a location for a test on the Otto B. Johnson farm 900 feet north of the large gas well on the J. T. Bonham farm. The Spartan Gas Co. made a location for a test on the Ernest Fisher and others lease 1,800 feet southwest of the J. E. Humphreys gas well. The elevation is 750 feet.

In this district, the South Penn Oil Co. is drilling at 2,000 feet on the S. H. Beane farm, and 1,250 feet on the T. H. Newhouse farm. B. E. Andree topped the Corniferous lime at 4,604 feet in the test on the F. M. Ray farm.

In Elk district, The Columbian Carbon Co. reached the Corniferous lime in three wells. In the test on the Robert N. Orth farm it was placed at 4,799 feet; in the test on the Viola Wolfe farm at 4,854 feet; and in the J. W. Jones test at 4,914 feet. Seventy wells are drilling in the two gas pools.

Deep Tests

In Wirt County, the Carnegie Natural Gas Co. is drilling at 3,498 feet in the deep test on the W. O. Caplinger farm in Tucker district. In Tygart district, W. H. Bickel is drilling at 3,800 feet in the Reese Blizzard test. In Wood County, the Belmont Quadrangle Co. has reached 2,208 feet in the C. D. White test.

In Roane County, W. H. Petry is drilling at 4,160 feet in the test on the D. O. Curry farm in Ravenswood district. In Clay County, the Pittsburgh and West Virginia Gas Co. is down 1,800 feet on the Jesse Chapman farm in Otter district.

In Jackson County, the Potter Development Co. is spudding in the test on the William T. Chancey farm in Ripley district.

Louisiana-Arkansas Fields

(Continued from Page 78)

Ten wells are now being drilled at Schuler, having as their objective the thick and well saturated oil sand in basal Travis Peak beds (about 7,600 feet) and the prolific gas-bearing formation in the Big lime at about 7,680 feet.

EAST TEXAS (Border Counties)

Although attention is centered upon two important wells in Panola County, Texas, which are nearing the testing stage, no progress was made on either during the last week. Danciger Oil & Refining Co. No. 1 J. W. Tatum, Bissell Survey, has now obtained a satisfactory water shut-off on their production string, and are preparing to test. Magnolia Petroleum Co.'s closely watched Lower Marine test near their Lower Glen Rose gas-distillate field, No. 2 Hull, Applewhite Survey, continues to fish for stuck casing at a total depth of 8,717 feet.

KEEPS WELLS PRODUCING AT LOW COST

With the Hart Straight-Line Bailing Machine and 35-foot mast you have a multi-purpose machine that saves money on cleaning out, bailing or swabbing, pulling tubing, drilling and cleaning out caveins, stringing pipe, erecting derricks and other similar applications. Complete with accessories, machine can be hauled on one wagon or truck. Operates on natural gas or gasoline.

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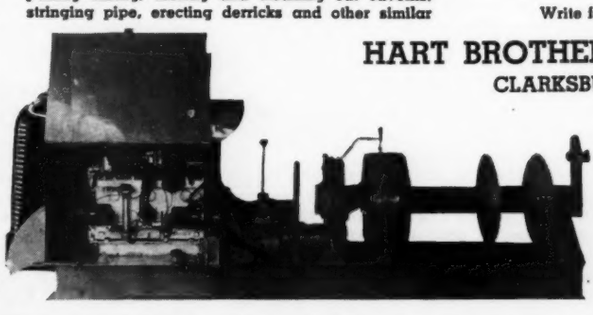

HART BROTHERS MACHINE CO.
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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Oct. 30.—Two recent completions on the Turner Valley west flank have extended the proven field to the west and south. In section 29-18-2w5, Commoil No. 1, LSD 15, finished around 7,475 feet as the deepest test yet drilled on the west flank, after getting the Madison limestone close to 7,000 feet. Water was pumped into the hole to thin the rotary mud, and bailing started. The hole speedily cleared itself under heavy natural gas pressure, throwing a column of oil 100 feet above the derrick. It looks like one of the largest producers in the field. The well was finished with 6-inch casing and is expected to at least equal Sterling Pacific No. 5. Location is west of Granville Oils No. 1 and nearly a half mile west of Turner Valley Royalties No. 1, it being the farthest west drilling yet undertaken in the South Turner Valley field.

In the southwest extension, Prairie Royalties No. 1, LSD 16, section 17-18-2w5, finished 485 feet in the Madison limestone at a total depth of 7,315 feet. It got the black lime marker at 7,295 feet. After thinning the rotary fluid, tubing was run and the gas lift used to clear the hole. It blew in with a gas flow estimated 10,000,000 feet a day. The first 24-hour test on the separator yielded 670 bbls. The completion, the first in section 17, extends the proven field a quarter mile south of Brown Oil Corp. No. 2 and a similar distance west of Brown No. 1 and Foundation Royalties No. 1. It indicates probabilities of an extension of the producing area into the south end of Township 18-2w5, and the north end of Township 17-2w5.

Turner Valley Producers

In section 28-18-2w5, Model-Spooner-Reward No. 1, LSD 4, finished in the lime at 6,930 feet with natural production between 350 and 400 bbls., was acidized with 10,000 gallons. After treatment it blew in with flush production more than 2,100 bbls., with gas flow up to 11,000,000 feet a day. Official tests showed settled production around 1,200 bbls., and the well was prorated at 780 bbls.

Share Royalties No. 1, LSD 8, section 29-18-2w5, bottoming in the Madison at 7,309 feet, started with flush production estimated as high as 3,000 bbls. but settled to less than 500 bbls. After acid treatment it again showed an exceptionally big flush production, estimated as high as 3,500 bbls., with gas flow increased to 4,000,000 feet. The crude production later dropped considerably below 1,000 bbls. and settled production of a little over 500 bbls. seems likely. The well may be given a second acid treatment.

In section 21-18-2w5, Davies-Royalite No. 2, LSD 13, finished at 6,965 feet with natural production over 2,100 bbls. which has been prorated at about 1,400 bbls., was treated with 10,000 gallons of acid. It blew in with flush production of 3½ bbls. a minute, and after two days steady flow was still holding above 3,000 bbls. Initial gas flow after acidizing was estimated at 15,000,000 feet a day. Settled production is expected to considerably exceed the original 2,100 bbls. a day.

Brown Oil Corp. No. 1, LSD 14, section 16-18-2w5, and Brown No. 2, LSD 8, section 20-18-2w5, are being acidized. Prorated natural production was around 230 bbls. each.

In section 29-18-2w5, Granville Oils No. 1, LSD 16, finished 464 feet in the Madison limestone at 7,321 feet, settled to about 350 bbls. a day with a small gas flow. It is being acidized.

In section 28-18-2w5, Four Star Petroleums, LSD 13, finished at 7,104 feet after getting the Madison at 6,640 feet. With rotary fluid not entirely cleared, it was making around 350 bbls. a day, and is being given acid treatment. In the same section, Century Royalties No. 1, LSD 14, is testing production after a second acid treatment of 8,000 gallons. Some increase is indicated. The Century well, drilled originally by Calgary Brokers, Ltd. has been taken over by E. S. Bowden and associates of Economy Oils, Ltd., who have also secured Pacalta Royalties No. 1 producer in the same section, and are planning a development program for the Turner Valley field.

Royal Crest Testing

In section 32-18-2w5, Royal Crest Petroleums No. 1, LSD 9, offsetting Royalite Oil Co. No. 5 Sterling Pacific to the west, finished drilling at 7,114 feet, 458 feet in the Madison, and has been swabbing and testing production. Early showings indicate a good producer.

Tests in the Lime

Four other west side tests are definitely in the Madison limestone. In section 33-18-2w5, Royalite Oil Co. No. 6 Sterling Pacific, LSD 5, has resumed after getting the Madison at 6,683 feet and cementing casing at 6,706 feet.

In section 28-18-2w5, Three Point Petroleums No. 1, LSD 12, is below 6,806 feet after getting the Madison at 6,562 feet.

In section 29-18-2w5, National Petroleum Corp. No. 1, S half LSD 8, is deepening with cable tools below 6,850 feet after getting the lime at 6,786 feet.

In the southwest extension, Firestone Petroleums No. 1, LSD 13, section 16-18-2w5, got the Madison at 6,354 feet and has resumed after cementing casing at 6,368 feet.

West Side Drilling

In West Central Turner Valley, Brown Oil Corp. No. 3, LSD 15, section 19-19-2w5, is below 5,415 feet.

In section 32-18-2w5, Royalite Oil Co. No. 28, LSD 16, is below 1,445 feet after establishing a new record of 900 feet for a week's drilling. West Flank Oil Co. No. 1, LSD 1, is below 6,412 feet.

In section 20-18-2w5, Royal Canadian Oils No. 1, LSD 15, is below 6,318 feet and expected to get the Madison limestone this month. Sunset Oils No. 1, LSD 10, is below 6,300 feet.

In section 19-18-2w5, Scottish Petroleums No. 1, LSD 16, is resuming after running casing to 123 feet.

In the south end of the field, Mid-Royal Oils No. 2, LSD 3, section 9-18-2w5, is rigging cable tool outfit from Richland Royalties No. 3. Location is south of the Highwood River, and nearly 2 miles south of the nearest producer.

West of the main Turner Valley fold, Okalta Oils No. 6, LSD 3, section 30-18-2w5, is below 2,204 feet.

New Far South Test

In the south end of Turner Valley, Davies Petroleums No. 3 has been spotted in LSD 7, section 33-17-2w5. Cable tools are being moved from Davies Petroleums No. 1. Location establishes a new farthest south point for active drilling, being 2 miles south of the Highwood River and more than 3 miles south of the nearest producers. The location is about 6 miles due east of Green Valley No. 1 Banner on the Highwood-Sinclair structure. It is about 1½ miles south of the nearest previous Turner Valley location. The Davies company has secured oil and gas rights covering the entire area of section 33, and it is believed the axis of the Turner Valley structure traverses a part of the section, following a southeasterly trend. The test will likely spud early in November.

New Tests Starting

On the west side of South Turner Valley, West Flank Oil Co. has located Nos. 5 and 6 tests in section 32-18-2w5, immediately west of the three West Flank wells now drilling. Work on cellars and derricks has been started.

Completion of Prairie Royalties No. 1, LSD 16, section 17-18-2w5, as a good producer has stimulated interest in adjacent acreage. On LSD 9, same section, offsetting the new producer to the south, Sundance Petroleums No. 1 is working on cellar. United Oils No. 1, LSD 1, section 20-18-2w5, offsetting the Prairie producer to the north, will likely be drilled under arrangement with Brown Oil Corp. Flank Petroleums No. 1, located last spring in LSD 14, section 17-18-2w5, is a westerly offset in which Paul von Weymarn has an interest. Coronation Royalties of Calgary has its No. 1 location in LSD 10, to the southwest. York Royalties, backed by Vancouver interests, has two locations in the southern part of section 20-18-2w5. All these tests have been awaiting the result of Prairie No. 1 and it is expected that several of them will now become active.

In the Taber field, southern Alberta, Plains Petroleum Corp. No. 2, LSD 11, section 25-9-17w4, got the Clancey sand at 3,215 feet and production at 3,220 feet, finishing at 3,222 feet when oil rose 500 feet in the 7-inch casing. It was deepened 2 feet more to establish the water level for the area, and then plugged back by the Oakum method. The oil blew 30 feet into the derrick. The well made 127 bbls. in a 12-hour pumping test which lowered the crude only 120 feet in the pipe. Adjustments are being made for steady production. The crude is around 29 gravity. Following completion of No. 2, Plains No. 3 will be deepened from 2,780 feet.

Thunder Bay Oil & Gas Co., financed by Toronto and Duluth mining interests, has secured 1,400 acres and located No. 1 test in section 27-8-17w4, to start early in November. A Wyoming syndicate has spotted a test on the Leonard Johnson farm near Barnwell. Border Petroleums has located its No. 1 test on the Ralph Johnson farm and is unloading materials. Sunshine Oil Co. of Vancouver is arranging for a test on C. P. R. acreage on the Taber structure.

In the Lethbridge district, Lethbridge Petroleums & Refining No. 1, LSD 12, section 11-8-22w4, is shut down at 2,311 feet.

East Side Drilling

On the Calling Valley structure, east of Turner Valley, Sentinel Oil Co. No. 1, LSD 1, section 8-20-2w5, is below 5,882 feet.

Tests in the Foothills

On the Brazeau structure, in the northern foothills, Home Oil Co. No. 1 is working on derrick and moving in equipment.

In the Forest Reserve area west of Olds, Hunter Valley Oil Co. No. 1 McLaren, LSD 12, section 13-31-10w5, is testing production at 8,274 feet.

On the Duncan structure, Spindletop Oils No. 1, LSD 4, section 1-30-6w5, is in the Benton shales below 2,308 feet.

On the Moose dome, Moose Oils No. 2, LSD 8, section 29-22-6w5, is readjusting pumping equipment to secure maximum production. Early tests indicated around 25 bbls. a day of light crude from the Devonian limestone at 1,553 feet. On the same structure, Model Oils No. 1 Moose, LSD 16, section 30-22-6w5, is rigging.

On the Kootenay dome, Roxana Petroleums No. 1, section 8-24-7w5, is below 3,606 feet, some 501 feet in the Devonian limestone with no additional gas production.

On the Birch Ridge structure, Elbow Oils No. 1, LSD 11, section 35-22-5w5, is below 5,216 feet.

On the Highwood-Sinclair structure, west of South Turner Valley, Green Valley Oils No. 1 Banner, LSD 6, section 34-17-3w5, encountered a show of high grade crude, estimated around 10 bbls. a day, at 3,730 feet. Drilling was continued, the oil causing the hole to cave badly. At 3,845 feet the formation changed and the hole was cemented back to 3,700 feet to shut off oil and stop caving. It is now deepening in very hard formation below 3,890 feet.

On the Watson structure, Mar Jon Oil Co. No. 5, LSD 1, section 29-8-2w5, has cellar completed.

Saskatchewan Drilling

In east-central Saskatchewan, Triangle Oil & Gas Co. No. 1, in the Lloydminster field, is setting casing on top of the gas sand preparatory to drilling into production.

Manitoba Oil Prospect

A new oil prospect in northern Manitoba was discovered recently by a prospecting party headed by W. C. Walsh of Winnipeg who spent from early spring until just before the freeze-up investigating the Severn River area. The party travelled in canoes from Norway House to God's Lake and thence down the Sachigo and Severn rivers to Fort Severn on Hudson Bay. While the western portion of the area was strongly mineralized, the outcrops along the Severn River showed pronounced oil indications.

Drilling in Ontario

In the Brownsville field, Oxford County, Ontario, a test by Patterson & Treleaven in Lot 26, Concession 12, Dereham Township, finished in the 930-foot sand with initial flow of 20,000,000 feet per day. Sam McKechnie of Dunnville handled the drilling. The well, the second largest in the field, is west of the earlier completions.

Some miles northwest of the field, the McKechnie-Spaulding-Connors Syndicate is drilling No. 1 Knott in North Dorchester Township, Middlesex County.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Hancock-Bush, No. 1-W Santa Maria, Santa Barbara	25-10-34	3,770	sd. sh. drlg.
Hancock-Bush, No. 2 C.L., Santa Maria, Santa Barbara	30-10-33	1,976	sd. sh. drlg.
Macrate, A. N., No. 2-R Santa Maria, Santa Barbara	23-10-34	1,791	sd. sh. drlg.
York Oil, No. 1 Doane, Santa Maria, Santa Barbara	27-10-34	1,483	sd. sh. drlg.
Pet. Prop., Inc., No. 1-R Santa Maria, Santa Barbara	19-10-33	2,196	sd. sh. drlg.
Sunshine Oil, No. 1-W Santa Maria, Santa Barbara	27-10-34	1,521	sd. sh. drlg.
Linnell Oil, No. 1 Santa Maria, Santa Barbara Co.	23-10-34	2,797	sd. sh. drlg.
Jones, Frank, No. 1 Santa Maria, Santa Barbara Co.	26-10-34	1,971	sd. sh. drlg.
Moore, E. H., No. 2 Sugar, Santa Maria, Santa Barbara	19-10-34	5,103	pump. 410 b.d.
Moore, E. H., No. 3 Sugar, Santa Maria, Santa Barbara	24-10-35	1,965	sd. sh. drlg.
Moore, E. H., No. 4 Sugar, Santa Maria, Santa Barbara	19-10-34	1,574	sd. sh. drlg.
Ohio Oil, No. 2-M Santa Maria, Santa Barbara Co.	21-10-34	4,081	pump. 290 b.d.
Union Oil, No. 2 Vincent, Santa Maria, Santa Barbara	30-10-33	4,060	sd. sh. drlg.
Union Oil, No. 4 Vincent, Santa Maria, Santa Barbara	30-10-33	4,375	flow. 1,958 b.d.
Union Oil, No. 2 LeRoy, Santa Maria, Santa Barbara	24-10-35	5,334	sd. sh. drlg.
Union Oil, No. 17 Cal. Coast, Orcutt, Santa Barbara	27- 9-34	2,951	sd. sh. drlg.
O'Donnell, J. E., No. 1 Santa Maria, Santa Barbara Co.	21-10-34	4,161	sd. sh. drlg.
Getty, George F., No. 1 Santa Maria, Santa Barbara	27-10-34	1,352	sd. sh. drlg.
Pac. Western Oil, No. 3 Santa Maria, Santa Barbara	21-10-34	3,586	sd. sh. drlg.
Pac. Western Oil, No. 1 Santa Maria, Santa Barbara	27-10-34	4,421	prod. test
Rice Ranch Oil, No. 4 Orcutt, Santa Barbara Co.	23- 9-34	4,330	P.B. 3,732
101 Oil, No. 1 Pt. Concepcion, Santa Barbara Co.	35- 5-33	3,206	flow. gas
Tide Water A. O., No. 1-L Santa Rita, Santa Barbara	3- 6-33	4,776	hd. sd. drlg.
Arnold Oil, No. 2 Careaga, Santa Barbara Co.	8- 8-33	6,373	pump. 50 b.d.
Field, O. C., No. 1-S.D., Lompoc, Santa Barbara Co.	11- 7-33	3,358	swab. water
Petroleum Securities, No. 6 Ranch, Shiells, Ventura	3- 3-19	4,393	sd. sh. drlg.
Texas Co., No. 133 Shiells, Ventura Co.	4- 3-19	4,128	P.B. 3,901
Texas Co., No. 134 Shiells, Ventura Co.	4- 3-19	3,600	sd. sh. drlg.
Richfield Oil, No. 1 McFarland, Camarillo, Ventura	13- 2-21	4,650	dry; abd.
Condor Oil, No. 1 Sespe, Ventura Co.	6- 4-19	2,193	cleaning out
Ivers, H. A., No. 14 Star, Sespe, Ventura Co.	1- 4-20	1,610	sd. sh. drlg.
Williamson Oil, No. 1 Sespe, Ventura Co.	1- 4-20	441	rd. sd. drlg.
Section 20 Oil Co., No. 1 Sespe, Ventura Co.	20- 5-19	498	hd. sh. drlg.
Speik Oil, No. 2 Sespe, Ventura Co.	33- 5-19	3,270	fish. bit
Colina Oil, No. 2 Sespe, Ventura Co.	25- 5-19	3,500	fishing
Topa Topa Oil, No. 3 Sespe, Ventura Co.	33- 5-19	4,410	sd. sh. drlg.
Commander Oil, No. 7-F Piru, Ventura Co.	13- 4-19	286	sd. sh. drlg.
Skyline Oil, No. 1-H Hopper Canyon, Ventura Co.	13- 4-18	1,565	sd. sh. drlg.
Vai, Giovani, No. 1 Ojai, Ventura Co.	4- 4-21	1,889	hd. sh. drlg.
Continental Oil, No. 8 Grubb, San Miguelito, Ventura	30- 3-23	3,937	redrig. 1,850
C. C. M. Oil, No. 2 Padre Canyon, Ventura Co.	23- 3-24	7,828	cleaning out
Continental Oil, No. 4 Padre Canyon, Ventura Co.	15- 3-24	5,720	fish. D.P.
C. C. M. Oil, No. 16 Rincon, Ventura Co.	8- 3-24	4,650	flow. 340 b.d.
C. C. M. Oil, No. 17 Rincon, Ventura Co.	17- 3-24	4,245	O.S. drlg.
Oxnard Oil, No. 1 Oxnard, Ventura Co.	10- 1-22	6,302	P.B. 6,200
Vaca Oil, No. 2 Oxnard, Ventura Co.	6- 1-21	4,285	pump. 10 b.d.
Tide Water A. O., No. 32 V.L.W., Ventura, Ventura	24- 3-23	3,131	sd. sh. drlg.
Tide Water A. O., No. 30 Lloyd, Ventura, Ventura	27- 3-23	6,291	sd. sh. drlg.
Tide Water A. O., No. 63 Lloyd, Ventura, Ventura	27- 3-23	4,810	sd. sh. drlg.
Tide Water A. O., No. 69 Lloyd, Ventura, Ventura	27- 3-23	1,925	sd. sh. drlg.
Tide Water A. O., No. 135 Lloyd, Ventura, Ventura	27- 3-23	7,574	rigging up
Tide Water A. O., No. 137 Lloyd, Ventura, Ventura	27- 3-23	10,060	cleaning out
Tide Water A. O., No. 138 Lloyd, Ventura, Ventura	23- 3-23	3,341	sd. sh. drlg.
Tide Water A. O., No. 18 Hartman, Ventura, Ventura	22- 3-23	7,596	hd. sh. drlg.
Tide Water A. O., No. 27 Hartman, Ventura, Ventura	22- 3-23	6,200	sd. sh. drlg.
Shell Oil, No. 90 Taylor, Ventura Ave., Ventura Co.	30- 3-23	7,450	flow. 1,291 b.d.
General Pet., No. 13 Notten, Ventura, Ventura Co.	28- 3-23	8,290	O.S. drlg.
Tide Water A. O., No. 10-E-3 Lost Hills, Kern Co.	3-26-20	2,067	deepening
Texas Co., No. 2-27 Theta, Lost Hills, Kern Co.	2-26-20	1,134	O.S. drlg.
Standard Oil, No. 6 United, Lost Hills, Kern Co.	2-26-20	1,592	cleaning out
Amerada Pet., No. 5 Beer, Devils Den, Kern Co.	22-26-19	2,100	sd. sh. drlg.
Goforth & Bradfield, No. 1 McKittrick, Kern Co.	18-30-22	862	P.B. 772
Franco-Western Oil, No. 14, McKittrick, Kern Co.	8-30-22	982	sd. sh. drlg.
Par Mer Oil, No. 1 McKittrick, Kern Co.	6-31-22	981	sd. sh. drlg.
Michels, George, No. 1 Ynez, Temblor, Kern Co.	36-29-20	1,610	P.B. 435
Standard Oil, No. 2 Randolph, Semi-Tropic, Kern Co.	14-27-23	5,242	sd. sh. drlg.
Continental Oil, No. 2 Wasco, Kern Co.	8-27-24	11,584	D.P. stuck
Seeco, No. 1 Armstrong, McFarland, Kern Co.	9-26-26	1,250	sd. sh. drlg.
Belridge Oil, No. 43-26 North Belridge, Kern Co.	26-27-20	7,995	br. sh. drlg.
Belridge Oil, No. 52-36 North Belridge, Kern Co.	26-27-20	8,375	O.S. drlg.
Belridge Oil, No. 27-8 North Belridge, Kern Co.	27-27-20	3,731	rigging up
Belridge Oil, No. 61-27 North Belridge, Kern Co.	27-27-20	2,960	sd. sh. drlg.
Tide Water A. O., No. 7 North Belridge, Kern Co.	34-27-20	3,840	sd. sh. drlg.
Tide Water A. O., No. 1-21 North Belridge, Kern Co.	21-27-20	2,593	sd. sh. drlg.
Texas Co., No. 1 Martin, North Belridge, Kern Co.	22-27-20	8,446	flow. 2,656 b.d.
General Pet., No. 1 St. Helens, Belridge, Kern Co.	12-28-20	2,000	sd. sh. drlg.
Honolulu Oil, No. 75 Round Mountain, Kern Co.	18-28-29	1,875	pump. 320 b.d.
Tampico Pet., No. 4 Round Mountain, Kern Co.	17-28-29	1,831	sd. sh. drlg.
Link Trucking, No. 1 Round Mountain, Kern Co.	30-28-29	1,695	reaming
Cal-Western Oil, No. 6 C.C., Round Mountain, Kern	12-28-28	1,778	pump. 425 b.d.
Cal-Western Oil, No. 7-C.C., Round Mountain, Kern	12-28-28	571	sd. sh. drlg.
Malone, F. H., No. 3 Mabry, Kern Front, Kern Co.	4-28-27	2,551	sd. sh. drlg.
California Star Oil, No. 3-80 Kern Front, Kern Co.	22-28-27	2,755	fish. liner
Texas Co., No. 11 Lehman, Kern Front, Kern Co.	23-28-27	2,057	sd. sh. drlg.
Union Oil, No. 8 Del Rey, Kern Front, Kern Co.	11-28-27	1,794	sd. sh. drlg.
Republic Pet., No. 14-S, Kern Front, Kern Co.	24-28-27	1,986	O.S. drlg.
Fuhrman, A., No. 12 Kern River, Kern Co.	28-28-28	581	sd. sh. drlg.
Morrison, C. S., No. 14-H, Kern River, Kern Co.	2-29-28	100	sd. sh. drlg.
Vedder, D. G., No. 3 B.N.B., Mount Poso, Kern Co.	32-26-28	1,752	O.S. drlg.
Ring Oil, No. 2 Bohen, Mount Poso, Kern Co.	32-26-28	1,690	O.S. drlg.
Sunset Oil, No. 5 Vedder, Mount Poso, Kern Co.	28-26-28	1,604	O.S. drlg.
Texas Co., No. 12 Vedder, Mount Poso, Kern Co.	4-27-28	1,210	sd. sh. drlg.
Vedder Pet., No. 29-2 Lambert, Mount Poso, Kern Co.	29-26-28	1,807	will P.B.
Bargol Oil, No. 3 Newhope, Mount Poso, Kern Co.	11-27-27	1,235	O.S. drlg.
Framac Oil, No. 1 Brown, Mount Poso, Kern Co.	22-27-27	1,351	fish. .P.
Desert Glow Oil, No. 2 Mount Poso, Kern Co.	14-27-27	1,232	pump. 35 b.d.
Baker, H. W., No. 2 Mount Poso, Kern Co.	28-27-27	2,012	cleaning out
Vanguard Oil, No. 8 Baker, Mount Poso, Kern Co.	33-27-28	139	sd. sh. drlg.
Vanguard Oil, No. 9 Baker, Mount Poso, Kern Co.	33-27-28	1,712	pump. 360 b.d.
Simmel, L. C., No. 2 Fruitvale, Kern Co.	23-29-27	3,748	O.S. drlg.
Western Gulf Oil, No. 10 Red Ribbon, Fruitvale, Kern	27-29-27	2,398	sd. sh. drlg.
Western Gulf Oil, No. 28 K.C.L., Fruitvale, Kern Co.	14-29-27	3,058	flow. 250 b.d.
Sandy Oil, No. 2 Fruitvale, Kern Co.	26-29-27	3,590	P.B. 3,342
Section Six Oil, No. 1 Mountain View, Kern Co.	6-31-29	6,020	idle
Ohio Oil, No. 6 Derby, Mountain View, Kern Co.	33-30-29	5,292	pump. 130 b.d.
Vesta Oil, No. 12 Mountain View, Kern Co.	19-30-29	3,371	sd. sh. drlg.
Hogan Pet., No. 5 Symons, Mountain View, Kern Co.	4-31-29	5,400	sd. sh. drlg.
Hogan Pet., No. 4 Bankline, Mountain View, Kern	4-31-29	5,641	sd. sh. drlg.
North American Consd., No. 2-T Mountain View, Kern	9-31-29	3,992	sd. sh. drlg.
Petrol Prod., No. 1 Fruit, Mountain View, Kern Co.	4-31-29	5,803	sd. sh. drlg.
Westbrook Oil, No. 1 Edison, Kern Co.	4-30-29	2,140	O.S. drlg.
Wood-Callahan Oil, No. 1 Harvey, Edison, Kern Co.	21-30-29	4,450	cleaning out
General Pet., No. 1 Houchin, Arvin, Kern Co.	27-31-29	7,354	test. W.S.O.
Arkelo Oil, No. 1 Lerdo, Kern Co.	23-28-26	10,050	fish. D.P.
Union Oil, No. 1-34 Rio Bravo, Kern Co.	34-28-25	11,302	prod. test
Continental Oil, No. 1 Rosedale, Kern Co.	12-29-26	10,210	redrig. 6,998
Superior Oil, No. 9 KCL, Greeley, Kern Co.	3-30-26	7,870	cleaning out
Standard Oil, No. 11-8 KCL, Greeley, Kern Co.	18-29-26	7,426	redrig. 7,390
Standard Oil, No. 11-9 KCL, Greeley, Kern Co.	20-29-26	7,691	sd. sh. drlg.
Standard Oil, No. 11-10 KCL, Greeley, Kern Co.	17-29-26	7,641	sd. sh. drlg.
Standard Oil, No. 12-2 KCL, Greeley, Kern Co.	16-29-26	7,644	flow. 3,456 b.d.
Standard Oil, No. 1-F Greeley, Kern Co.	20-29-26	7,680	sd. sh. drlg.
Standard Oil, No. 15-1 KCL, Ten Section, Kern Co.	27-30-26	1,996	sd. sh. drlg.
Shell Oil, No. 8-28-A KCL, Ten Section, Kern Co.	28-30-26	7,998	br. sh. drlg.
Shell Oil, No. 36-30-A KCL, Ten Section, Kern Co.	30-30-26	4,861	sd. sh. drlg.
Ohio Oil, No. 3-E, KCL, Ten Section, Kern Co.	14-30-25	7,973	br. sh. drlg.
Standard Oil, No. 1 Magunden, Kern Co.	2-30-28	3,988	sd. sh. drlg.
Monticello Oil, No. 4 Midway-Sunset, Kern Co.	27-31-22	1,341	br. sh. drlg.
C. C. M. Oil, No. 44-21 Midway-Sunset, Kern Co.	21-32-23	2,305	O.S. drlg.
C. C. M. Oil, No. 45-21 Midway-Sunset, Kern Co.	21-32-23	2,404	pump. 198 b.d.
C. C M. Oil, No. 1-U.S., Midway-Sunset, Kern Co.	30-32-24	2,985	P.B. 2,520
Hallmark Oil, No. 8 Midway-Sunset, Kern Co.	25-12-24	2,800	O.S. drlg.
Hallmark Oil, No. 9 Midway-Sunset, Kern Co.	25-12-24	164	sd. sh. drlg.
Brookshire Oil, No. 3 Midway-Sunset, Kern Co.	24-31-22	2,450	sd. sh. drlg.
Hoyt, Otis, No. 7 Midway-Sunset, Kern Co.	7-11-23	1,500	sd. sh. drlg.
Richfield Oil, No. 14 Fellows, Midway-Sunset, Kern	6-32-23	1,071	O.S. drlg.
Wreden Pet., No. 1 Midway-Sunset, Kern Co.	12-11-24	1,706	idle

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., plugging big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.O.N.G., water shut off no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

Standard Oil, No. 19 Monarch, Midway-Sunset, Kern	26-12-24	1,997	sd. sh. drlg.
Standard Oil, No. 2-25-L Midway-Sunset, Kern Co.	25-12-24	3,000	sd. sh. drlg.
Honolulu Oil, No. 16-A Midawy-Sunset, Kern Co.	14-32-24	3,165	pump. 220 b.d.
Honolulu Oil, No. 26-A Midway-Sunset, Kern Co.	14-32-24	2,198	sd. sh. drlg.
National Oil, No. 30 Midway-Sunset, Kern Co.	35-32-23	1,775	O.S. drlg.
Gibson Oil, No. 5 O'Brien, Midway-Sunset, Kern Co.	6-11-23	2,780	O.S. drlg.
Texas Co., No. 1 Pioneer, Midway-Sunset, Kern Co.	33-11-23	4,295	hd. sh. drlg.
Texas Co., No. 25 Midway-Sunset, Kern Co.	32-32-24	3,170	tested wet
Texas Co., No. 26 Midway-Sunset, Kern Co.	32-32-24	3,249	pump. 338 b.d.
Texas Co., No. 27 Midway-Sunset, Kern Co.	32-32-24	2,917	sd. sh. drlg.
Richfield Oil, No. 1-H-A Elk Hills, Kern Co.	1-31-24	2,987	sd. sh. drlg.
Central Valley Oil, No. 1 Fresno, Fresno Co.	1-12-20	132	cable tools
Pure Oil, No. 1 Cantua, Fresno Co.	31-18-17	7,000	sd. sh. drlg.
K. N. D. A., No. 4-18-J Kettleman North, Fresno Co.	18-21-17	11,520	gr. sd. drlg.
K. N. D. A., No. 43-34-J Kettleman North, Fresno Co.	34-21-17	6,798	br. sh. drlg.
K. N. D. A., No. 41-4-P Kettleman North, Fresno Co.	4-22-17	8,065	completing
K. N. D. A., No. 83-4-P Kettleman North, Fresno Co.	4-22-17	6,685	fish. D.P.
K. N. D. A., No. 27-12-P Kettleman North, Kings Co.	12-22-17	6,287	br. sh. drlg.
K. N. D. A., No. 38-12-P Kettleman North, Kings Co.	12-22-17	5,180	sd. sh. drlg.
K. N. D. A., No. 6-6-Q Kettleman North, Kings Co.	6-22-18	7,860	br. sh. drlg.
K. N. D. A., No. 27-6-Q Kettleman North, Kings Co.	6-22-18	7,620	br. sh. drlg.
Standard Oil, No. 27-21-J Kettleman North, Fresno	21-21-17	6,761	sd. sh. drlg.
Standard Oil, No. 27-33-J Kettleman North, Fresno	33-21-17	7,874	sd. sh. drlg.
Standard Oil, No. 2-11-P Kettleman North, Kings Co.	11-22-17	6,735	br. sh. drlg.
Standard Oil, No. 76-1-P Kettleman North, Kings Co.	1-22-17	5,971	sd. sh. drlg.
Standard Oil, No. 21-13-P Kettleman North, Kings Co.	13-22-17	1,882	sd. sh. drlg.
Superior Oil, No. 1 Huffman, Kettleman No., Fresno	29-21-17	9,773	sd. sh. drlg.
Temblor Oil, No. 1-B Kettleman Middle, Kings Co.	25-23-18	8,480	gr. sh. drlg.
Amerada Pet., No. 1 Carano, Los Banos, Merced Co.	19-10-11	3,410	br. sh. drlg.
Hancock Oil, No. 1 Huasna, San Luis Obispo Co.	30-12-33	3,361	idle
Little Cuyama Oil, No. 1 Adelaida, San Luis Obispo	3-10-26	982	sd. sh. drlg.
Elba Oil, No. 1 Pajaro, Monterey Co.	6-13-2	3,970	recmtd. 3,871
Amerada Pet., No. 1 Sacramento, Rio Vista, Solano	24- 4-2	4,347	40,000 m.c.f.
Amerada Pet., No. 1 Deterding, Rio Vista, Solano	36- 4-2	1,997	sd. sh. drlg.
Tracy Drlg., No. 1 Hansen, Rio Vista, Solano Co.	25- 4-2	4,415	37,500 m.c.f.
Standard Oil, No. 2 Weyl, McDonald Is., San Joaquin	25- 2-4	5,298	sd. sh. drlg.
Standard Oil, No. 1 Morris, Delano, Tulare Co.	36-24-23	9,560	hd. sh. drlg.
Magnet O. & G., No. 1 Delano, Tulare Co.	29-24-24	7,555	sd. sh. drlg.
Trico O. & G., No. 1 Tulare Lake, Tulare Co.	28-24-23	2,657	sd. sh. drlg.
Standard Oil, No. 1 Hooper, Woodland, Yolo Co.	32- 9-1	5,181	gr. sh. drlg.
Standard Oil, No. 1 Cook, Dunnigan, Yolo Co.	32-12-1	4,591	br. sh. drlg.
Empire O. & G., No. 1 Woodland, Yolo Co.	8- 9-3	231	sd. sh. drlg.
Wilshire Oil, No. 1 Half Moon Bay, San Mateo Co.	20- 6-5	2,427	cleaning out
Texas Co., No. 1 Crows Landing, Stanislaus Co.	30- 6-8	1,495	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Richfield Oil, No. 1-H El Segundo, Los Angeles Co.	7- 3-14	7,494	sd. sh. drlg.
Richfield Oil, No. 2-SF El Segundo, Los Angeles Co.	7- 3-14	4,854	sd. sh. drlg.
Richfield Oil, No. 1 McCray, El Segundo, Los Angeles	12- 3-15	5,833	sd. sh. drlg.
Sunshine Oil, No. 1 C. W. El Segundo, Los Angeles	12- 3-15	2,981	sd. sh. drlg.
Sunshine Oil, No. 1-W El Segundo, Los Angeles	12- 3-15	385	sd. sh. drlg.
Apex Pet., No. 1 Elsie, El Segundo, Los Angeles Co.	12- 3-15	5,981	sd. sh. drlg.
Tide Water A. O., No. 1 El Segundo, Los Angeles Co.	8- 3-14	7,260	sd. sh. drlg.
Ohio Oil, No. 8 Gough, El Segundo, Los Angeles Co.	7- 3-14	7,500	sd. sh. drlg.
Ohio Oil, No. 9 Gough, El Segundo, Los Angeles Co.	7- 3-14	3,890	sd. sh. drlg.
Texas Co., No. 5 Security, El Segundo, Los Angeles	18- 3-14	7,000	sd. sh. drlg.
Ruchti Pet., No. 1 El Segundo, Los Angeles Co.	12- 3-15	6,275	sd. sh. drlg.
Standard Oil, No. 4 Ref., El Segundo, Los Angeles	13- 3-15	6,898	sd. sh. drlg.
Standard Oil, No. 5 Ref., El Segundo, Los Angeles	13- 3-15	3,532	sd. sh. drlg.
Standard Oil, No. 6 Ref., El Segundo, Los Angeles	13- 3-15	1,971	sd. sh. drlg.
Pac. Western Oil, No. 1 El Segundo, Los Angeles Co.	7- 3-14	7,450	hd. sh. drlg.
Getty Oil, No. 1-A El Segundo, Los Angeles Co.	7- 3-14	6,997	sd. sh. drlg.
Lakeside Oil, No. 10-1 Elsie, El Segundo, Los Angeles	18- 3-14	683	sd. sh. drlg.
Wilshire Oil, No. 9-1 Elsie, El Segundo, Los Angeles	12- 3-15	3,994	sd. sh. drlg.
Standard Oil, No. 84 L.A.I., Inglewood, Los Angeles	17- 2-14	1,455	cmtd. 1,455
B. C. L. Oil, No. 1 Torrance, Los Angeles Co.	5- 4-14	3,558	pump. 45 b.d.
C. C. M. Oil, No. 34-T Torrance, Los Angeles Co.	16- 4-14	4,960	pump. 130 b.d.
Keystone Oil, No. 2 Torrance, Los Angeles Co.	16- 4-14	3,423	bailing
Loma Verde Oil, No. 12 Torrance, Los Angeles Co.	16- 4-14	4,567	pump. water
Kavanaugh, E. C., No. 1 Palos Verdes, Los Angeles	17- 4-14	5,526	sd. sh. drlg.
Tide Water A. O., No. 4 Cypress, Potrero, Los Angeles	34- 2-14	4,525	cleaning out
Shell Oil, No. 92 Reyes, Dominguez, Los Angeles Co.	33- 3-13	7,765	O.S. drlg.
Union Oil, No. 51 Callender, Dominguez, Los Angeles	33- 3-13	2,630	sd. sh. drlg.
Union Oil, No. 56 Callender, Dominguez, Los Angeles	33- 3-13	8,440	sd. sh. drlg.
Union Oil, No. 57 Callender, Dominguez, Los Angeles	33- 3-13	5,693	sd. sh. drlg.
Union Oil, No. 10 Carson, Dominguez, Los Angeles	33- 3-13	4,560	sd. sh. drlg.
Barnsdall Oil, No. 18 O'Dea, Rosecrans, Los Angeles	18- 3-13	5,430	sd. sh. drlg.
Union Oil, No. 35 H.P., Rosecrans, Los Angeles Co	18- 3-13	6,650	sd. sh. drlg.
Union Oil, No. 17 Rosecrans, Los Angeles Co.	18- 3-13	7,332	sd. sh. drlg.
Macrate, A. N., No. 2 Rosecrans, Los Angeles Co.	17- 3-13	8,351	O.S. drlg.
Bolsa Chica Oil, No. 1 Rosecrans, Los Angeles Co.	20- 3-13	7,944	P.B. 7,270
Burt, A. G., No. 1 Newhall, Los Angeles Co.	36- 4-17	2,583	idle
Barnsdall Oil, No. 2-S.F., Newhall, Los Angeles Co.	26- 4-17	5,084	redrlg. 3,094
Holbrook Pet., No. 1 Newhall, Los Angeles Co.	28- 4-16	6,250	will abdn.
Royal Lands, No. 1 Ramona, Castaic, Los Angeles Co.	8- 4-17	821	sd. sh. drlg.
General Pet., No. 5-A Ford, Wilmington, Los Angeles	4- 5-13	4,090	flow. 2,566 b.d.
General Pet., No. 23 Ford, Wilmington, Los Angeles	4- 5-13	2,950	will deepen
General Pet., No. 5 Isco, Wilmington, Los Angeles	4- 5-13	3,240	sd. sh. drlg.
General Pet., No. 6 Isco, Wilmington, Los Angeles	4- 5-13	3,575	flow. 1,095 b.d.
General Pet., No. 1-P, Wilmington, Los Angeles Co.	33- 4-13	3,600	redrlg. 2,675
Allied Pet., No. 25, Wilmington, Los Angeles Co.	32- 4-13	2,961	sd. sh. drlg.
Bankline Oil, No. 8-D.H., Wilmington, Los Angeles	34- 4-13	1,996	sd. sh. drlg.
Bankline Oil, No. 9-D.H., Wilmington, Los Angeles	34- 4-13	3,424	pump. 190 b.d.
Bankline Oil, No. 23-D.H., Wilmington, Los Angeles	34- 4-13	3,050	sd. sh. drlg.
Bankline Oil, No. 8-P.T., Wilmington, Los Angeles	34- 4-13	1,794	sd. sh. drlg.
Baker Oil, No. 1 Wilmington, Los Angeles Co.	33- 4-13	3,502	sd. sh. drlg.
Buckeye Union, No. 1 Bill, Wilmington, Los Angeles	32- 4-13	2,675	C.P. 1,025
Caminol Oil, No. 1-P Wilmington, Los Angeles Co.	33- 4-13	3,600	cleaning out
Colter & McAdoo, No. 1 Wilmington, Los Angeles Co.	32- 4-13	3,050	sd. sh. drlg.
Exeter Oil, No. 2 Banning, Wilmington, Los Angeles	32- 4-13	1,985	sd. sh. drlg.
Macson Oil, No. 55-C, Wilmington, Los Angeles Co.	32- 4-13	1,996	sd. sh. drlg.
McDonald & Burns, No. 2-B Wilmington, Los Angeles	32- 4-13	3,545	O.S. drlg.
Neilson et al, No. 1 Wilmington, Los Angeles Co.	33- 4-13	3,600	sd. sh. drlg.
Pac. Western Oil, No. 1-R Wilmington, Los Angeles	33- 4-13	3,665	deep test
Pongratz, Gus, No. 1 Nix, Wilmington, Los Angeles	33- 4-13	3,002	sd. sh. drlg.
Royalty Serv., No. 842-2 Wilmington, Los Angeles Co.	33- 4-13	5,747	flow. 240 b.d.
Royalty Serv., No. 2-P Wilmington, Los Angeles Co.	32- 4-13	3,590	sd. sh. drlg.
Royalty Serv., No. 22-7 Wilmington, Los Angeles Co.	33- 4-13	1,872	sd. sh. drlg.
Selegna Drlg., No. 10 Wilmington, Los Angeles Co.	32- 4-13	195	sd. sh. drlg.
Sonwell Oil, No. 3-W Wilmington, Los Angeles Co.	32- 4-13	3,630	flow. 490 b.d.
Union Pacific, No. 40 Wilmington, Los Angeles Co.	33- 4-13	3,390	flow. 160 b.d.
Union Pacific, No. 44 Wilmington, Los Angeles Co.	34- 4-13	3,348	sd. sh. drlg.
Union Pacific, No. 47 Wilmington, Los Angeles Co.	3- 5-13	1,984	sd. sh. drlg.
Union Pacific, No. 54 Wilmington, Los Angeles Co.	4- 5-13	2,471	sd. sh. drlg.
Union Pacific, No. 56 Wilmington, Los Angeles Co.	4- 5-13	1,874	sd. sh. drlg.
Union Pacific, No. 60 Wilmington, Los Angeles Co.	4- 5-13	2,488	sd. sh. drlg.
Union Pacific, No. 63 Wilmington, Los Angeles Co.	34- 4-13	2,962	sd. sh. drlg.
Union Pacific, No. 5-C Wilmington, Los Angeles Co.	33- 4-13	2,885	sd. sh. drlg.
Union Pacific, No. 6-C Wilmington, Los Angeles Co.	33- 4-13	3,495	flow. 294 b.d.
Alford Oil, No. 1 C.Y. Wilmington, Los Angeles Co.	22- 4-13	1,652	sd. sh. drlg.
Julian, C. A., No. 1 Koch, Walnut, Los Angeles Co.	5- 2-9	3,000	gr. sd. drlg.
British American Oil, No. 1 Pico, Los Angeles Co.	12- 2-12	2,099	sd. sh. drlg.
Davis, No. 1 Garvey Ranch, Montebello, Los Angeles	22- 2-11	536	sd. sh. drlg.
Texas Co., No. 18 Baldwin, Montebello, Los Angeles	5- 2-11	2,090	sd. sh. drlg.
St. Helens Pet., No. 20-M, Montebello, Los Angeles	6- 2-11	4,520	hd. sd. drlg.
Hilldon Oil, No. 3 Bixby, Flood Control, Los Angeles	13- 4-13	4,020	flow. 415 b.d.
Union Oil, No. 1 Flood Control, Los Angeles Co.	13- 4-13	4,155	flow. 360 b.d.
Texas Co., No. 4 Bauman, Long Beach, Los Angeles	19- 4-12	4,543	sd. sh. drlg.
Texas Co., No. 14 Harlow, Long Beach, Los Angeles	19- 4-12	3,893	sd. sh. drlg.
Rico Pet., Inc., No. 1 Long Beach, Los Angeles Co.	30- 4-12	3,997	sd. sh. drlg.
Richfield Oil, No. 5 Davis, Long Beach, Los Angeles	19- 4-12	2,191	sd. sh. drlg.
Richfield Oil, No. 4 Keon, Long Beach, Los Angeles	29- 4-12	3,495	redrlg. 2,950
Exeter Oil, No. 5 Transport, Long Beach, Los Angeles	30- 4-12	3,064	pump. 25 b.d.
Union Oil, No. 100 Santa Fe Springs, Los Angeles Co.	6- 3-11	10,739	redrlg. 10,650
Texas Co., No. 7-W Santa Fe Springs, Los Angeles	6- 3-11	6,530	milling
Continental Oil, No. 40 Bixby, Seal Beach, Orange Co.	2- 5-12	7,365	O.S. drlg.
Shell Oil, No. 4-1 Columbia, Olinda, Orange Co.	9- 3-9	6,810	hd. sd. drlg.
Brea Canyon Oil, No. 36 Brea Canyon, Orange Co.	2- 3-10	4,552	hd. sh. drlg.
Standard Oil, No. 127 Murphy, West Coyote, Orange	18- 3-10	3,240	sd. sh. drlg.
Standard Oil, No. 11 Coyote, East Coyote, Orange	22- 3-10	4,152	sd. sh. drlg.
Arrowhead Oil, No. 2 Bradford, Richfield, Orange Co.	32- 3-9	4,632	P.B. 4,555
Texas Co., No. 1 Isaacs, Richfield, Orange Co.	32- 3-9	3,715	P.B. 3,460
Union Oil, No. 29 Chapman, Richfield, Orange Co.	30- 3-9	8,818	idle
Union Oil, No. 46 Chapman, Richfield, Orange Co.	29- 3-9	2,925	cmtd. 2,895
Oil Income, No. 1 Anderson, Yorba, Orange Co.	22- 3-9	981	sd. sh. drlg.
Horth & Mohr, No. 1 Yorba, Orange Co.	22- 3-9	1,403	P.B. 1,345
Beverly Hills Pet., No. 1 Fricke, Yorba, Orange Co.	21- 3-9	1,914	rig to pump
Mid-State Pet., No. 1 Oliver, Yorba, Orange Co.	22- 3-9	1,600	bailing
Bachmann Pet., No. 1 Page, Yorba, Orange Co.	22- 3-9	1,300	hd. sh. drlg.
Shell Oil, No. 1-H Anaheim, Orange Co.	9- 4-10	7,181	sd. sh. drlg.

KANSAS

Week Ending October 30 (Descriptions are East unless marked otherwise)

Barber County

Helmerich & Payne et al No. 1 Blunk Est., C SE sec. 19-34-13w. T.D. 5,405 ft.; D.&A.

Olson Oil Co. and Skelly Oil Co. No. 1 Elsea, SW SE NW sec. 27-32-14w. Drlg. 5,161 ft.

Palmer Oil Corp. et al No. 1 Warwick, C NW sec. 29-31-10w. Rig.

Barton County

Brouk and National Ref. Co. No. 1 Gory, NW SW sec. 10-17-13w. T.D. 3,352 ft.; P. 255 B.O. in 24 hrs.

Martin & Foraker et al No. 1 Dick Est., NE SW SW sec. 31-19-11w. Rig.

Arch Merriam et al No. 1 Norris, NE NE NW sec. 33-17-11w. Drlg. 850 ft.

Tom Palmer et al No. 1 Polzin, NW SE sec. 4-16-12w. T.D. 3,315½ ft.; 1,700 ft. O.I.H.

C. L. Price No. 1 Hammeke, NE NE SW sec. 12-18-12w. Sil. 3,415-27 ft.; 1,800 ft. O.I.H.; bails 4 bbls. wtr. every other day.

Shell Pet. Corp. No. 1 Ehrlich, SW cor. sec. 1-16-14w. Drlg. 2,470 ft.

Shell Pet. Corp. No. 1 Peterman, SE NE SE sec. 13-16-14w. T.D. 3,366 ft.; acd.: pmp. 415 B.O. in 20 hrs.; S.D.

Stanolind O. & G. Co. No. 1 Hagen A, SE sec. 21-20-11w. Drlg. 1,154 ft.

Chase County

Cal.-Ill.-Kans. Oil Co. No. 1 Evans, SW NW sec. 11-22-9e. Drlg. 1,450 ft.

Chautauqua County

C. L. Brosius et al No. 1 Garrett, NW SW NW sec. 26-32-11. H.F.W. 2,076 ft., T.D.; P.B. 1,545 ft.; C.O.

W. G. Buffington No. 1 Fisher, CWL SW NW sec. 10-34-9e. S.D. 1,677 ft.

C. R. Craft No. 1 Lagree, SE NW NE sec. 8-32-12e. T.D. 2,080 ft.; P.B. 687 ft.

Harrison No. 1 Brown, NE SE NE sec. 19-34-10. S.D. 820 ft.

Ingot Oil Co. No. 1 McKee, SW NE SW sec. 21-32-12. T.D. 1,209 ft.; acd.

I. W. Siegel No. 1 Temple, SW cor. sec. 31-32-12. Rig.

Clark County

Olson Oil Co. et al No. 1 Watkins, SW NW sec. 23-32-21w. Drlg. 2,900 ft.

Cowley County

Arthur Brewer No. 1 Shepard, NE NE SE sec. 20-32-4e. Drlg. 1,040 ft.

Pryor & Lockhart No. 1 Brown, NE SE SE sec. 34-33-2e. Sil. 3,853-64 ft., T.D.; P.B. 3,403 ft.; C.O.

Smith & Price No. 1 Henderson, SW SW sec. 25-32-6. Set 8-in. 1,760 ft.

Ellis County

Aylward Prod. Co. et al No. 1 Berens, SE SE sec. 10-14-16w. Drlg. 3,480 ft.

Brunson Drlg. Co. et al No. 1 Weisner, SE SW SE sec. 31-13-17w. T.D. 3,651 ft.; P.B. 3,624 ft.; P. 30 B.O. in 24 hrs.; 5% wtr.

Colonial Oil Co. and Bernheimer No. 1 Albert, SW SW NE sec. 31-12-18w. Drlg. 1,740 ft.

Lario O. & R. Co. No. 1 Bell, NW NW NE sec. 8-12-18w. Rng. csg. 3,765 ft.

P. G. Reynolds et al No. 1 Karlin, NW cor. sec. 13-12-18w. Set 8-in. 2,922½ ft.; T.D.

C. E. W. Skiles et al No. 1 Jensen, SW SE NE sec. 26-12-18w. S.D. 2,910 ft.

Ellsworth County

Hinkle et al No. 1 Alden, SE SE SW sec. 17-17-10w. T.D. 3,124 ft.; rng. 8-in. csg.

Ford County

Olson Oil Co. et al No. 1 Fowler, C SW sec. 26-27-22w. Drlg. 3,795 ft.

Grant County

R. K. Wilson No. 1-22 Helmly, C SE sec. 22-28-37w. Set 7-in. 2,338 ft.; R.U.S.T.

Greenwood County

Eagle Oil Co. No. 1 Stine, NE NE SE sec. 13-28-10. U.R. 8-in. 730 ft.

Ward McGinnis et al No. 1 Henly Estate, SW cor. sec. 25-25-9. T.D. 2,234 ft.; H. F.W.; P.B.; cmt. 6-in.

S. Van Devanter et al No. 1 Dove, NE SE SW sec. 12-28-11. T.D. 1,300 ft.; D.&A.

Whittaker & Johnson No. 1 Cannon, CEL SE NW sec. 8-26-13. Drlg. 750 ft.

Harvey County

Allison et al No. 1 Hawks, SE SW NE sec. 16-24-1w. C.O. 500 ft.

Jackson County

Lemmick Oil Co. No. 1 Marble Savings Bank, NE cor. sec. 26-9-14. Spd. and S.D.

Kingman County

Carter Oil Co. No. 1 Davis, C E½ NE NE sec. 24-28-8w. Sil. 4,538 ft.; cd. 4,540-57 ft.

Logan County

Morgan. Flynn, Cobb et al No. 1 McMullen, C NW sec. 9-13-37w. Drlg. 5,240 ft.

McPherson County

C. E. Ash Drlg. Co. No. 1 Broman, NE NE NW sec. 19-17-4w. Drlg. 3,340 ft.

Boyle & Grossman No. 1 Diener, SE SE NE sec. 35-19-1w. Drlg. 2,305 ft.

Bradley Bros. No. 1 Barnholt, SW SW SE sec. 30-20-5w. Chat 3,292 ft.; T.D. 3,338 ft.; 131 B.O. in 24 hrs.; comp.

Fred C. Frank et al No. 1 Doles, SE NW NE sec. 12-19-1w. Set 8-in. 2,775 ft.; S.D.

Wamhoff et al No. 1 Nuse, SE NE SW sec. 18-18-4w. T.D. 1,850 ft.; temp. abd.

Meade County

Pacific Mid-West Co. No. 1 Rexford, NE SE SW sec. 8-30-29w. Drlg. 900 ft.

Mitchell County

Geo. Siedhoff et al No. 1 Greiss, SW SW SE sec. 16-8-10w. S.D. 4,022 ft.

Ness County

Trojan O. & G. Co. No. 1 Moses, C SW NW sec. 10-18-25w. Drlg. 150 ft.

Trojan O. & G. Co. No. 1 Page Milling Co., SE SE NW sec. 36-18-26w. Fsg. 3,265 ft.

Osborne County

Fred C. Chaddox and Atlantic Ref. Co. Drlg. 3,805 ft.

F. E. Fullerton & Son No. 1 Moray, NE SE SW sec. 27-10-12w. T.D. 500 ft.; abd.

Pawnee County

Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Jantz, SW cor. sec. 25-20-16w. Drlg. 1,970 ft.

Phillips County

C. W. Davidson et al No. 1 Elliff, SE NE NE sec. 35-5-18w. S.D. 350 ft.

Pratt County

Colonial Oil Co. et al No. 1 Hays, SE SW sec. 4-26-12w. Drlg. 2,420 ft.

Penn Drlg. Co. et al No. 1 Holland, SW NW SE sec. 6-26-12w. Set 12-in. 245 ft.; W.O.C.

Skelly Oil Co. et al No. 1 Adams, SE NW NE sec. 2-28-11w. T.D. 4,300 ft.; fsg.

Reno County

Lib Phillips et al No. 1 McPheeters, NE NE NW sec. 22-26-8w. Spd. and S.D.

Sam Schneider et al No. 1 Kroecker, NE cor. sec. 12-22-5w. Drlg. 3,045 ft.

Westgate-Greenland et al No. 1 Popp, SW SW NE sec. 7-25-4w. S.D. 2,264 ft.

Rice County

Bell O. & G. Co. et al No. 1 Timbers, NW NE sec. 8-21-8w. Drlg. 3,358 ft.
Elbar Corp. No. 1 Ehler, NE SE sec. 8-21-9w. Sil. 3,523 ft.; D.&A.
Gerbrand-Pulse Oil & Drilling Co. No. 1 Wellman, SW cor. sec. 22-21-9w. T.D. 3,327 ft.; est. 23,000,000 ft. dry gas.
Gillespie et al No. 1 Strong, NE NW sec. 9-18-8w. Spd. and S.D.
John Hanna et al No. 1 Marshall, NE NW NW sec. 30-18s-8w. S.D. 1,530 ft.
Skiles et al No. 1 Campbell, SE SE NE sec. 28-19-9w. T.D. 2,961 ft.; acd.; P. 2 B.O. and 3 B.W. per hr.
W. E. Witt et al No. 1 Fair, NW SE SE sec. 4-22-8w. Drlg. 2,670 ft.

Rooks County

C. R. Craft et al No. 1 Ziegler, NE SW sec. 8-10-16w. Set 6-in. 3,171 ft.; drlg. 3,243 ft.
Graham et al No. 1 Fike, SW cor. sec. 9-9-17w. T.D. 3,326 ft.; pmpd. 50 B.O. and 35 B.W. in 8 hrs.; fsg.
W. W. Kiskaddon et al No. 1 Ham, SW SW NW sec. 25-7-19w. Spd. 20 ft.
Superior Oil Corp. et al No. 1 Casey, SE SE sec. 35-10-19w. Drlg. 3,200 ft.
Texas Co. No. 1 McCarroll, C W½ W½ NW sec. 29-10-17w. Drlg. 2,377 ft.

Rush County

Duwe & Brouk No. 1 Lebsack, SE SE NE sec. 13-16-16w. Sil. 3,492-95 ft.; 1,500 ft sulfur water in hole in 2½ hrs.; T.D 3,512 ft.; S.D.O.
Earl Wakefield et al No. 1 Zimmerman SE SE SW sec. 7-16-18w. Drlg. 3,600 ft.
Wakefield & Brouk No. 1 Kerbs, NW NW SE sec. 11-17-16w. S.D. 360 ft.

Russell County

Cities Service Oil Co. et al No. 1 Eichman, SW SE sec. 12-15-14w. T.D. 3,213 ft.; cor.; 1,100 ft. O.I.H.; acd.
Emrichs et al No. 1 Anderson, NE SE SW sec. 33-15-11w. Spd. and S.D.
Murfin and Vernon O. & G. Co. No. 1 Pearson, NE cor. sec. 31-15-15w. Drlg. 450 ft.
Parks No. 1 Opdycks, SW cor. sec. 20-14-13w. T.D. 3,180 ft.; 800 ft. O.I.H.; S.D.
Phil-Han Oil Co. No. 1 Deines, NE NE NW sec. 33-14-14w. Drlg. 2,981 ft.
C. L. Price No. 1 Sebesta, NE NE sec. 36-15-11w. T.D. 2,375 ft.; S.D.
Trapp Drlg. Co. et al No. 1 Polcyn, NE SE sec. 34-14-15w. H.F.W. 3,355-61 ft.; P.B. 3,298 ft.; D.&A.
Winkler & Koch No. 1 Jones, SE SE NW sec. 22-14-13w. Sil. 3,180 ft.; S.D.O.

Sedgwick County

Fulton et al No. 1 fee, NE SE sec. 35-28-1e. Fsg. 1,550 ft.
McKnab No. 1 Garrett, SE SW SW sec. 18-29-2e. S.D. 100 ft.
L. W. Murfin et al No. 1 Martin, SE NW sec. 32-28-1e. T.D. 3,491 ft.; 3,000 ft. F.I.H.; C.O.
National Ref. Co. No. 1 fee, SE NE SE sec. 26-27-2e. Set 8-in. 2,468 ft.; trying to kill gas.
M. Steinbuchel et al No. 1 Shaffer, SW SW NW sec. 18-25-1e. Drlg. 1,490 ft.
W. G. Talbott et al No. 1 Downs Est., SE SE NW sec. 32-28-2e. T.D. 2,232 ft.; 3,922,000 ft. gas.
Union O. & R. Co. et al No. 1 Howell, SW cor. sec. 6-29-1e. S.D. 2,010 ft.

Stafford County

W. P. Faulkner No. 1 Moses, NW SW sec. 9-22-13w. S.D. 2,170 ft.
Hannum Drlg. Co. et al No. 1 G. H. Thole, NE sec. 27-23-12w. T.D. 3,882 ft.; D.&A.
Kessler O. & G. Co. et al No. 1 Pinkston, NE NW sec. 17-22-14w. Sil. 3,915 ft.; cg. 3,924 ft.
Fred Rust et al No. 1 Drach, NE SW sec. 12-22-13w. Sil. 3,693 ft.; R.U.S.T. 3,698 ft.
Stanolind O. & G. Co. No. 1 Shank, SE cor. sec. 17-24-13w. Drlg. 3,340 ft.
Stanolind O. & G. Co. No. 1 Tiechman, SE cor. sec. 13-22-13w. Drlg. 3,474 ft.
Torry & Feaster et al No. 1 Allen, NW SE sec. 34-22-12w. T.D. 3,829 ft.; D.&A.

Stevens County

United Prod. Co. No. 1 Beardsley, C N½ sec. 12-31-35w. Set 7-in. 2,525 ft.; W. O.C.

Sumner County

Cities Service Oil Co. No. 1 McCoy, SE SW sec. 11-35-2e. Drlg. 3,026 ft.
W. M. McKnab No. 1 Blair, SW cor. sec. 7-30-1e. T.D. 3,869 ft.; shot; flows between csg.
Magnolia Pet. Co. No. 1 Baird, SW SE SE sec. 2-30-4w. T.D. 4,401 ft.; S. 782 B.O. and 1,500 B.W. in 20 hrs.; to P.B.
R. J. Wixson No. 1 Newton, SE SE sec. 21-30-2e. S.D. 1,975 ft.

Trego County

Central Commercial Oil Co. No. 1 Locker, C SW sec. 12-14-22w. Granite 4,731 ft.; D.&A.
Thurman Hill et al No. 1 Lawson, SW SW NW sec. 7-14-22w. Drlg. 1,495 ft.
R. E. McNeely et al No. 1 Hille, C SE NE sec. 22-15-24w. Drlg. 3,986 ft.
Phillips Pet. Co. No. 1 Trego, C SE SW sec. 14-12-23w. Drlg. 4,157 ft.

Wallace County

Wilcox O. & G. Co. No. 1 Parker, SE SE NE sec. 9-11-40w. Drlg. 4,860 ft.

OKLAHOMA

Week Ending October 30

NORTHERN OKLAHOMA

Beckham County

Mid-American Oil Co. No. 1-A Biscoe, SW cor. sec. 28-8-22w. Granite Wash; S.O. 2,213-20 ft.; S.D.

Caddo County

Indian Terr. Illum. Oil Co. No. 1 Dome-Bo, C NE SE sec. 29-6-10w. T.D. 5,237 ft.; redrlg. at 5,116 ft.

Cleveland County

Harper-Turner No. 1 Pollock, C W½ NW NW sec. 13-9-2w. Drlg. 5,656 ft.

Creek County

M. W. Mosier et al No. 1 Holcomb, SE SW NW sec. 19-18-8. T.D. 3,018 ft.; P.B. 3,015 ft.; drlg. up swab.

Garvin County

Carter Oil Co. No. 1 Potts, C E½ SE NW sec. 36-1n-3w. Drlg. 3,505 ft.
R. C. D. Edwards No. 1 Clark, NE cor. sec. 16-3n-3e. T.D. 2,405 ft.; waiting on drill pipe.

Grady County

Doyle Pet. Co. No. 1 Huffine, NW NW SE sec. 30-5-8w. Drk.
Gulf Oil Corp. No. 1 Thomas, SW NW NW sec. 14-4-5w. T.D. 8,623 ft.; fsg.

Greer County

J. I. Medlin et al No. 1 Broudie, NW cor. sec. 5-6n-20w. T.D. 90 ft.; S.D.

Haskell County

Continental Oil Co. No. 1 Ferguson, SW SE NE sec. 33-8-20. T.D. 7,003 ft.; D.&A.

Hughes County

Burke-Greis Oil Co. No. 1 Rhea, SW SW SE sec. 14-10-9. T.D. 3,304 ft.; U.R. at 3,101 ft.
E. H. Moore, Inc., No. 1 Buck, NW SW SW sec. 21-8-10. T.D. 4,456 ft.; D.&A.
Phillips Pet. Co. No. 1 Becker, NE NW SW sec. 8-5-10. Set 9-in. 4,414 ft.; T.D. 4,425 ft.; W.O.C.
Pure Oil Co. No. 1 Rogers, SE SE NE sec. 18-8-12. Drlg. 3,650 ft.

Kay County

E. J. Shaffer et al No. 1 McKee, NE NW sec. 20-28-1w. Spudded.

Kiowa County

Hughes & Reese No. 1 Fultz, SE cor. sec. 10-6-18w. T.D. 865 ft.; S.D.

Lincoln County

Ardie Oil Co. No. 1 State, NE NE SE sec. 16-14-4. T.D. 5,035 ft.; D.&A.
C. L. Carlock No. 1 Young, C N half NW NW sec. 23-15-5. Drlg. 2,730 ft.
Riley & Talbot et al No. 1 Weidler, NW SW NW sec. 20-17-2e. Oil stains and odor of gas in cores at 4,888-4,905 ft.; to core ahead.

Logan County

Texas Co. No. 1 Roper, C W½ SW SE sec. 22-15-1e. Drlg. 1,865 ft.

Noble County

Seaboard Western Oil Co. et al No. 1 Guthrie, NW NW NE sec. 6-20-2w. T.D. 5,454 ft.; flwd. 312 B.O. in 24 hrs.; flwd. 245 B.O. in 24 hrs.; comp.

Okfuskee County

F. W. Merrick No. 1 Mackey, NE NE SW sec. 29-11-10. Drlg. 4,037 ft.
Riverland Oil Co. No. 1 Board, NE NW SE sec. 10-13-10. Set 6-in. 2,788 ft.; T.D. 2,840 ft.

Pawnee County

H. R. Hollenbach et al No. 1 Clark, NW cor. sec. 34-21-6w. Drlg. 3,057 ft.

Pittsburg County

Okla. Dist. Oil Co. No. 1 Beeler, NE NE SW sec. 7-7-14. Drlg. 5,247 ft.
Phillips Pet. Co. No. 1 Gilcrease, NW NW SE sec. 16-7-12. Drlg. 4,502 ft.

Pontotoc County

Boettcher O. & G. Co. No. 1 Gann, SE NW NE sec. 25-4n-7e. T.D. 4,347 ft.; S.D.
Kerlyn Oil Co. No. 1 Pratt, SW SE NE sec. 6-4-4e. Wilcox 2,290-2,355 ft.; T.D.; rng. Schlumberger.
Norbla Oil Co. No. 1 McBride, NE NE SW sec. 10-2n-5e. Loc.
Papoose Oil Co. et al No. 1 Jones, NW SE NW sec. 2-4-5. Viola 2,595 ft.; T.D. 2,840 ft.; run Schlumberger; S.D.O.
Union Dev. Co. No. 1 Abbott, SW NW NE sec. 34-3-6. T.D. 3,320 ft.; drill pipe stuck. S.D.

Pottawatomie County

Hightower No. 1 Baker, SE SE NW sec. 27-6-3e. Tools moved out; S.D.

Seminole County

E. W. Jones et al No. 1 Belford, NE SE NE sec. 9-9-8. Drlg. 4,597 ft.
Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Salina, SE NE NW sec. 4-5-6. T.D. 3,317 ft.; P.B. 3,214 ft.; no shut off; S.D.O.

Texas County

Hagey et al No. 1 Becker, C NE sec. 4-1n-13ecm. Spray S.W. 2,910 ft.; T.D. 3,010 ft.; to P.B.
Hagey et al No. 1 Peck, C NE sec. 6-1n-13ecm. Set 7-in. 2,766 ft.; W.O.C.

Washita County

John Koberg No. 1 Harms, NW NW NE sec. 6-10-16w. T.D. 4,260 ft.; S.D.

SOUTHERN OKLAHOMA

Atoka County

C. M. Sheldon and Gardner Pet. Co. No. 1 Lee, NE NW SW sec. 2-4s-10e. T.D. 1,335 ft.; C.O.

Coal County

Carter Oil Co. No. 1 Claytor, C W½ NE SW sec. 27-2n-9e. Bromide 6,255 ft.; cd. 6,263-71 ft.; S.S.G.; to core ahead.
Phillips Pet. Co. No. 1 Beck, SE SW SW sec. 6-1n-9e. Drlg. 4,575 ft.

Cotton County

Bowers & Wise No. 1 Pendergraft, NW SE SW sec. 4-4s-12w. Drk.

Jefferson County

Massad & Swansberger No. 1 Barrett, NE SE SE sec. 14-6s-6w. T.D. 1,890 ft.; S.D.

Johnston County

Patton et al No. 1 McCrummins, C SW SW NE sec. 16-1s-6e. S.D. 1,380 ft.
W. T. Sheldon No. 1 Chapman, C NW NW sec. 26-4s-6e. T.D. 2,182 ft.; rng. 5-in. csg.

Marshall County

F. W. Merrick, Inc., No. 1 Robinson, NE cor. sec. 33-7s-4e. Drlg. 1,750 ft.
Paul Robb et al No. 1 Vittitoe, C NE SE sec. 11-5s-4e. O.W.D.D.; C.O. to 720 ft.; S.D.

Murray County

Meyer & Greenup No. 1 Arbuckle, NW NW NE sec. 18-2s-3e. Spd. and S.D.
O. O. Owens No. 1 Fryer, NE SE NE sec. 34-1s-3e. T.D. 2,574 ft.; 1,400 ft. W.I.H. S.D.
Sinclair Prairie Oil Co. No. 1 Lancaster Trust, C SW NE sec. 10-1-2e. T.D. 4,404 ft.; freeing stuck pipe.

Pushmataha County

Erle Halliburton et al No. 1 Bagwell, SW NE NE sec. 30-3s-15e. T.D. 5,669 ft.; S.D.; repairs.

Stephens County

Jack Cohen No. 1 Pierce, NE NE NW sec. 24-2s-6w. T.D. 1,672 ft.; fsg.
Coline Oil Co. No. 1 Johnson, C SW SE SE NE sec. 1-2n-8w. T.D. 10,000 ft.; set 7-in. at 8,971 ft.; W.O.C.
Chas. Newsom No. 1 Pfile, SW cor. sec. 1-2s-7w. T.D. 3,551 ft.; S.D.O.
Ed Parsons No. 1 Blake, C SW NW sec. 22-2n-8w. Drlg. 5,115 ft.

Tillman County

Cavens et al No. 1 Southerland, SW SW NW sec. 35-4s-16w. T.D. 44 ft.; S.D.
Gulf Oil Corp. No. 1 Prichard, SE NW SE sec. 32-3s-16w. T.D. 5,715 ft.; S.D.O.
Tom Walker No. 1 Bowman, SW SW NW sec. 10-4s-17w. S.D. 200 ft.

ARKANSAS

Columbia County

Hayner, Reaves & Hose No. 1 Brandon, SW NW SW sec. 34-11-13. Drlg. 1,935 ft.
Kerr-Lynn Oil Co. No. 1 Barnett, sec. 14-17-20. Drlg. 3,519 ft.
E. O. Olds No. 1 Dennis, NE SE SW sec. 4-17-21. Drlg. 3,320 ft.
Standard of La. No. 1 J. P. McKean, SW sec. 8-16s-22w. D.D. 10 ft.; flw. 16 B. P.H.; tstg.; T.D. 7,214 ft.
Tide Water-Seaboard Oil Co. No. 1 Crumpler, SW NE SW sec. 24-17-19w. Drlg. 5,874 ft.

Cross County

Manning & Martin No. 1 Park-Greseck, NW NE NE sec. 4-6n-5e. T.D. 4,380 ft.; D.&A.

Hempstead County

H. D. Easton et al No. 1 R. M. LaGrone, sec. 5-12-26. Will whipstock; T.D. 2,940 ft.
C. W. Hayes No. 3 State of Ark., sec. 20-13-26. T.D. 1,611 ft.; D.&A.

Miller County—Rodessa

F. W. Burford No. 3 Ahern, sec. 10-20-28. T.D. 6,088 ft.; acd.
Anding & Bird No. 4 Skipper, SW NW SW sec. 11-20-28. 7-in. 6,025 ft.; T.D. 6,103 ft.; W.O.C.S.
F. W. Burford No. 4 Ahren, SE SE SW sec. 10-20-28. Drlg. 5,331 ft.
F. W. Burford No. 1-E A. A. Capps, sec. 13-20-28. Drlg. 5,990 ft.
F. W. Burford No. 1-F A. A. Capps, sec. 12-20-28. Comp.; flw. 25 B.P.H.; T.D. 6,080 ft.
F. W. Burford No. 1 A. J. Cross, E½ SE NE sec. 11-20-28. Comp.; flw. 25 B.P.H.; T.D. 6,120 ft.
F. W. Burford No. 1-A J. O. Gerrald, NE cor. sec. 15-20-28. Drlg. 5,419 ft.
F. W. Buford No. 2-B G. G. Gerrald, sec. 15-20-28. 7-in. 6,009 ft.; T.D. 6,070 ft.; tstg.
G. C. Grasty No. 1 Treadway, SW SE NE sec. 10-20-28. Drlg. 5,943 ft.
H. L. Hunt No. 3 Womack, NW SW SE sec. 10-20-28. Comp.; flw. 20 B.P.H.; T.D. 6,086 ft.
H. L. Hunt No. 4 Womack, NE SE SE sec. 10-20-28. Drlg. 5,997 ft.
H. L. Hunt No. 5 Womack, SW SW SE sec. 10-20-28. Drlg. 4,117 ft.
Kroll & Travis No. 1 Dickson, SW SE NW sec. 11-20-28. T.D. 6,169 ft.; tstg.
Rodger Lacy No. 1 Sartor, SE W½ sec. 15-20-28. Drlg. 2,275 ft.
W. M. Layton No. 3 Terry, SE W½ W½ sec. 14-20-28. Drlg. 3,068 ft.
R. H. Long No. 1 Greer, SW NE SE sec. 10-20-28. 7-in. 6,100 ft.; T.D. 6,118 ft.; W.O.C.S.
McClanahan et al No. 4 Capps, NE NE SW sec. 11-20-28. 7-in. cmtd. 6,075 ft.; on bttm.; tstg.
McClanahan et al No. 1 Easton, S½ NW SW sec. 12-20-28. R.U.
McClanahan et al No. 1 J. P. Greer, SE SW NW sec. 11-20-28. Comp.; flw. 15 B.P.H.; T.D. 6,195 ft.
McClanahan No. 1 T. J. Hopkins, SE SW NE sec. 11-20-28. Drlg. 4,650 ft.
McClanahan et al No. 2 T. J. Hopkins, C sec. 11-20-28. Drlg. 1,075 ft.
McMurray No. 1-A Thomas, NW E½ W½ sec. 13-20-28. Drlg. 2,212 ft.
McMurray No. 2-B Thomas, SW SW SE sec. 12-20-28. Drlg. 2,122 ft.
J. R. Ostrom No. 1 J. O. Gerrald, NW E¼ sec. 15-20-28. 7-in. 5,990 ft.; T.D. 6,079 ft.; W.O.C.S.
Parks et al No. 1 Gerrald, sec. 11-20-28. Drlg. 3,244 ft.
Skelly Oil Co. No. 1 Thomas, SW SE SW sec. 12-20-28. Drlg. 4,944 ft.
A. M. Sutton No. 1 Cross, SE cor. SE NE sec. 11-20-28. Drlg. 4,762 ft.
S. O. Thomason No. 1 Greer, SW SW NW sec. 11-20-28. Drlg. 3,400 ft.
Texas Canadian Oil Co. No. 1 Thomas, sec. 12-20-28. 13-in. cmtd. 170 ft.

Miller County—Other

Odel Hinson No. 1 Montana Realty Co. O.W.D.D.; T.D. 5,235 ft.; P.B. to 7-in. csg. seat and prep. perf.

Pulaski County

A. L. Kitselman No. 2 A. L. Kitselman, Jr., SE SE SW sec. 2-1s-13e. Drlg. 1,400 ft.

Sevier County

C. & M. Oil Co. No. 1 Arnold, SW NW NE sec. 23-9-30. T.D. 996 ft.; D.&A.

Union County—Schuler

E. M. Jones No. 2 Marine Oil Co., SW NW SE sec. 17-18-17. Drlg. 4,995 ft.
E. M. Jones No. 3 Marine Oil Co., NE NW SE sec. 17-18-17. Drk.
E. M. Jones No. 4 Marine Oil Co., SE SW SE sec. 17-18-17. Drlg. 3,358 ft.
Lion Oil Ref. Co. No. 1-A M. D. Justiss; NE NW NE sec. 19-18-17. O.W.D.D. R.U.
Lion Oil Ref. Co. No. 1 Marine Oil Co., NE SE SW sec. 17-18-17. Drlg. 2,190 ft.
Lion Oil Ref. Co. No. 1-A Edna Morgan, O.W.D.D.; comp.; flw. 342 bbls. in 12 hrs.; T.D. 7,686 ft.
Lion Oil Ref. Co. No. 4-B Edna Morgan, NW SW SE sec. 18-18-17. Drk.
Lion Oil Ref. Co. No. 3-B Edna Morgan, NE NW SE sec. 18-18-17. R.U.
Lion Oil Ref. Co. No. 1-C D. and J. C. Morgan, NE SE SE sec. 18-18-17. Loc.
Marine Oil Co. No. 2 M. D. Justiss, sec. 18-18-17. Drlg. 1,742 ft.
Phillips Pet. Co. No. 1 E. Gan, SW SE NE sec. 18-18-17. T.D. 6,062 ft.; drlg. 6,740 ft.
Phillips Pet. Co. No. 1 Jennings, NW SW NE sec. 18-18-17. Drlg. 1,040 ft.
Alice Sidney Oil Co. No. 2 Morgan, SE NE SE sec. 18-18-17. O.W.D.D.; drlg. 6,867 ft.

Union County—Other

Ark. So. Oil Co. No. 1 Simmons, SE NW sec. 15-18-13. Drlg. 270 ft.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo—Rodessa

F. W. Burford No. 1 Pitts, NW sec. 1-23-16. T.D. 6,068 ft.; tstg.
F. W. Burford No. 1 R. A. Terry, NW E½ sec. 2-23-16. Drlg. 5,093 ft.
F. W. Burford No. 4 Terry, SE NE sec. 2-23-16. Drlg. 1,738 ft.
F. W. Burford No. 1 U. S. Govt., NE SE SW sec. 6-23-16. Drlg. 4,660 ft.
Gulf Ref. Co. No. 2 Campbell, C sec. 4-23-16. T.D. 6,061 ft.; W.O.S.R.
Magnolia Pet. Co. No. 4 Mary S. Atkins, SW SE sec. 7-23-15. Drlg. 5,760 ft.
Magnolia Pet. Co. No. 2 G. W. Hardy, NW SW sec. 1-23-16. R.U.
Standard Oil of La. No. 1 Mrs. Alice N.

Gibson, NW NE SW sec. 10-23-16. Drlg. 2,115 ft.
Standard Oil Co. No. 3 McCoy, NE cor. NE NW sec. 10-23-16. Drlg. 5,957 ft.
Union Prod. Co. No. 6 Starke, SW cor. sec. 8-23-16. T.D. 5,860 ft.; fsg. for D.S.
G. H. Vaughn No. 1 J. G. Yates, NW cor. sec. 2-23-16. Drlg. 5,595 ft.

N. LOUISIANA WILDCATS

Bienville Parish

Gulf Ref. Co. No. 1 Goodpine, sec. 25-14-8. Drlg. 4,547 ft.
H. L. Hunt and Seaboard No. 1 Federal Ld. Bk., SW sec. 10-16-16. Drlg. 6,167 ft.

Bossier Parish

Ark.-La. Gas Co. No. 4 R. O. Roy, sec. 18-17-11. Comp.; 40,000,000 ft. gas; T.D. 5,028 ft.
L. W. Dennis No. 1 D. T. Roos, SW NW NW sec. 13-19-12. 8-in. cmtd. 858 ft.; T.D. 858 ft.
Triangle Drlg. Co. No. 1-A Schuler Est., SE NW sec. 13-17-12. T.D. 3,118 ft.; prep. A.G.L.

Caddo Parish

W. D. Chew No. 3 Spell, NE SW SE sec. 29-21-15. R.U.
Mrs. O. P. Clement No. 1-B Caddo Lvy. Bd., NE sec. 5-20-16. Drlg. 575 ft.
D. C. R. Oil Co. No. 1 Dickinson, SW SW NW sec. 15-19-14. T.D. 2,465 ft.; W.O. S.R.
La. Oil Prod. Co. No. 11-B Muslow, sec. 4-20-15. T.D. 2,213 ft.; W.O.S.R.
La. Oil Prod. Co. No. 13-B Muslow, SE NW SW sec. 4-20-15. 6-in. 2,140 ft.
La. Oil Prod. Co. No. 1-D Muslow, sec. 5-20-15. Comp.; pmp. 20 B.P.D.; T.D. 2,179 ft.
O. O. Olsen No. 1 R. T. Sharp, W½ NW sec. 15-18-16. Cg. 3,976 ft.
Frank Perkins No. 2-A Stiles, SW NW SW sec. 33-21-16. T.D. 1,858 ft.; S.O.; S.D.; arg. D.D.
Prairie River Synd. No. 1 Hutchinson, SW NW sec. 15-15-12. S.D. 9,141 ft.
Sam M. Richardson No. 1 Sentell, SW E½ sec. 9-19-14. T.D. 2,460 ft.; W.O.S.R.
Stanolind O. & G. Co. No. 129 Dillon, NW sec. 13-21-15. Comp.; pmp. 9 B.P.D.; T.D. 1,665 ft.
Surf-Maji Oil Co. No. 3 Self, SE sec. 10-20-15. W.O.S.R. 2,193 ft.

Claiborne Parish

Atlantic Ref. Co. No. 2-C Patton, E½ SW SE sec. 29-21-4. Drlg. 1,650 ft.
R. L. Bauman No. 2 C. S. L. Patton, SW SW NE sec. 1-20-5. 5-in. cmtd. 5,350 ft.; T.D. 5,368 ft.; tstg.
Crescent Drlg. Co. No. 1 Fowler, E½ SW NW sec. 33-21-4. R.U.
E. W. Gill No. 1 English, S½ NE SW sec. 29-21-4. Drlg. 4,138 ft.
Harry Hanbury No. 2-D E. Vaughn, N½ SW SW sec. 30-21-4. Comp.; flw. 417 bbls. 7 hrs.; T.D. 5,188 ft.
T. L. James No. 1 Baker, sec. 25-21-5 500 ft. oil; T.D. 5,222 ft.; W.O.S.R.
Lyons & Neely No. 1 Simms, NE NE sec. 32-20-5. T.D. 5,928 ft.; D.&A.
W. L. McClanahan No. 1 J. T. Lewis, W½ SW SE sec. 25-20-7. Drlg. 650 ft.
A. O. Olson No. 1 W. H. Patton, S½ SE SE sec. 26-21-5. 7-in. 5,256 ft.; T.D. 5,273 ft.; W.O.C.S.
C. R. Schuster No. 3 Patton Est., N½ NE NE sec. 1-20-5. T.D. 5,377 ft.; jnkd. and abd.
Sloan & Zook No. 2-C S. L. Patton, sec. 1-20-5w. Drlg. 3,035 ft.
Sloan & Zook Co. No. 4 W. H. and M. Patton, sec. 1-20-5. Drlg. 4,661 ft.
A. O. Olson No. 4-A T. F. Patton, N½ SE SW sec. 30-21-5. T.D. 5,197 ft.; tstg.
Shreveport Oil Corp. No. 1 Edwards, NE sec. 16-20-5w. Comp.; pmpd. 20 B.P.D.; T.D. 5,438 ft.
Tippett Drlg. Co. No. 2 C. S. L. Patton, sec. 1-20-5. 10-in. cmtd. 725 ft.
Union Prod. Co. No. 2 Brownfield, sec. 5-19-5; O.W.D.D., Sugar Creek field. Drlg. 6,155 ft.
G. H. Vaughn No. 2 Eppinger, N½ SW SW sec. 29-21-4. Drlg. 100 ft.

Concordia Parish

Coastal Mineral & Dev. Co. No. 1 Winsten, sec. 23-7-9e. Drlg. 2,194 ft.

De Soto Parish

Clear Lake Oil Co. No. 1 J. A. Woolums NW sec. 29-12-12. T.D. 2,667 ft.; S.O.; S.D.; wt. csg.
Kingston Oil Co. No. 1 Scott, SE NE sec. 32-14-13. Drlg. 2,396 ft.

Lincoln Parish

Gulf Ref. Co. No. 1 M. Patton, C sec. 6-20-4. Drlg. 125 ft.
Ludel Oil Corp. No. 1 Gill, NE NE NW sec. 36-20-2w. T.D. 5,318 ft.; S.D.
Magnolia Pet. Co. No. 1-B F. Corbin, N½ NW NW sec. 5-20-4. R.U.
Magnolia Pet. Co. No. 2 F. Corbin, NE cor. sec. 6-20-4. Comp.; flw. 50 B.P.H.; T.D. 5,318 ft.
E. H. Moore, Inc. No. 1 Arcadia Comm. Bk., C NW sec. 22-18-5. Cg. 5,785 ft.
Red Iron Drlg. Co. No. 2 T. F. Patton, NW SW NE sec. 6-20-4. R.U.

Sabine Parish

Fox & Phillips No. 1 Cook Ld. Co., SW SE NW sec. 1-9n-12w. Drlg. 1,750 ft.
Gold Oil Co. No. 1 Darby, N½ SE sec. 21-7-11. 6-in. cmtd. on bttm.; T.D. 2,519 ft.
Hunter Co. No. 1 H. L. Bowman Co., NW cor. sec. 13-7-17. 8-in. cmtd. 2,115 ft.; T.D. 2,137 ft.
Remine et al No. 1 4-L Co., SW SW sec. 7-5-12. Drlg. 3,540 ft.

Union Parish

Joe Modisett No. 1 Frost Lbr., sec. 14-21-1e. Drlg. 3,340 ft.

Webster Parish

V. L. Foster No. 2 J. M. Mixon, SE sec. 21-21-10. Drlg. 6,751 ft.
Magnolia Pet. Co. No. 4 Aarnes-Cox, NW sec. 22-21-10. Drlg. 8,032 ft.
Magnolia Pet. Co. No. 1 Crichton Hrs., NE NW sec. 33-21-10. Drlg. 3,900 ft.
Magnolia Pet. Co. No. 7 Marshall, SW SE sec. 21-21-10. R.U.
Ohio Oil Co. No. 2 Bodcaw Acct. 4, SW SE NW sec. 24-21-10. R.U.
Ohio Oil Co. No. 47 Bodcaw Acct. 2, SW SE sec. 15-21-10. Comp.; flw. 185 bbls. dist. 3 hrs.; T.D. 8,459 ft.
Ohio Oil Co. No. 48 Bodcaw Acct. 2, SE sec. 15-21-10. R.U.
Ohio No. 1 S. P. D. Coyle and W. Cox, SW SW SE sec. 23-21-10. Drlg. 8,069 ft.
Ohio Oil Co. No. 2 Warren Cox, SE sec. 23-21-10. Drlg. 200 ft.
A. G. Oliphant et al No. 1 Banks, NE NE sec. 34-21-10. Drlg. 8,126 ft.
Ohio Oil Co. No. 1 D. W. Merritt, SW cor. sec. 14-21-10. T.D. 8,365 ft.; tstg.
Standard Oil Co. of La. No. 7 Mrs. M. F. Davis, NE NE NW sec. 23-21-10. Drlg. 7,495 ft.
Standard Oil Co. of La. No. 2-B Mrs. M. E. Gray, NE NE NW sec. 26-21-10. Drlg. 7,418 ft.
United Gas No. 6 Tillman, NE sec. 28-21-10. T.D. 5,749 ft.; rng. Schlumberger.
Woodley Pet. Co. No. 2-B L. C. Cox, 7-in. 8,098 ft.; T.D. 8,140 ft.; W.O.C.S.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 1 Brookshire, sec. 66-12s-3e. T.D. 11,909 ft.; P.B. 11,109 ft.; recmtd.

Anse La Butte—St. Martin Parish

Anse La Butte Oil Corp. No. 1 Billeand, sec. 17-9s-5e. T.D. 832 ft.; 7-in. csg. 790 ft.
Crusader Pet., Inc., No. 1 Central Oil Co., sec. 86-9s-5e. S.D. 407 ft.
Crusader Pet., Inc., No. 1 Patin, sec. 46-9s-5e. 10¾-in. csg. 400 ft.; T.D. 1,888 ft.; S.W. sd.; P.B. 983 ft.; abd.

Bay St. Elaine—Terrebonne Parish

F. J. LeBlanc No. 2 Wurzlow, sec. 17-22s-18e. S.D. 910 ft.
Texas Co. No. 15 State, sec. 20-22s-18e. R.U.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 5-A Wilberts, sec. 75-9s-10w. R.U.

Bayou Cocotris—Terrebonne Parish

Shell Pet. Corp. No. 3 Pelican, sec. 19-17s-15e. T.D. 9,526 ft.; P.B. 9,506 ft.; I.P. 996 B.P.D.; ¼-in. ck.
Shell Pet. Corp. No. 3-B Realty, sec. 18-17s-15e. 16-in. csg. 117 ft.; drlg. sh. 7,975 ft.

Bayou De Allemands—St. Charles Parish

Amerada Pet. Corp. No. 1 St. Charles Ld. Co., sec. 38-15s-20e. 10¾-in. csg. 2,698 ft.; drlg. sh. 6,512 ft.

Big Lake—Cameron Parish

Union Sulphur Co. No. 1 P. J. Hebert, sec. 18-12s-8w. 6⅝-in. csg. 8,441 ft.; T.D. 9,289 ft.; D.S. stuck; fsg.
Union Sulphur Co. No. 2 J. O. Hebert, sec. 18-12s-8w. Drlg. sdy. sh. 8,328 ft.

Black Bayou—Calcasieu Parish

Shell Pet. Corp. No. 36 Watkins. Drlg. L. 4,609 ft.

Bosco—Acadia Parish

Superior Oil Co. No. 1 J. L. Larcade, sec. 64-8s-3e. Drlg. sh. 8,580 ft.
Superior Oil Co.-Pure Oil Co. No. 5 Larcade, sec. 35-8s-3e. T.D. 10,216 ft.; fsg.

Caillou Island—Terrebonne Parish

Texas Co. No. 52 State, sec. 19-23s-20e. T.D. 3,768 ft.; 7-in. csg. 3,743 ft.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 19 Sch. Ld., sec. 16-14s-13w. Drlg. sd. 5,204 ft.

Charenton—St. Mary Parish

Pan American Prod. Co. No. 1 Dolph, sec. 36-13s-9e. T.D. 7,185 ft.; 7-in. csg. 6,904 ft.; perf. csg. 6,838-46 ft.; make D.S.T.
Pan American Prod. Co. No. 1 Eucer, sec. 11-13s-9e. R.U.
Pan American Ref. Co. No. 4 Laws Realty Co., sec. 30-13s-10e. T.D. 10,066 ft.; P. B. 7,180 ft.; perf. 7,120-50 ft.; squeezed off perf.; reperf. 7,168-78 ft.; comp. for gas well.
Pan American Prod. Co. No. 2 South Coast Corp., sec. 31-13s-9w. T.D. 7,228 ft.; 7-in. csg. 6,556 ft.; tstg.

Choctaw—Iberville Parish

Standard Oil Co. No. 10 Grove, sec. 52-9s-11e. T.D. 5,303 ft. in salt; D.S. stck. P.B. 4,650 ft.; T.D. 5,075 ft.; sdtrkd. while rmg.; top salt 5,188 ft.; T.D. 5,600 ft.; salt.
Louisiana Crusader Oil Co. No. 1 E. B. Schwing, sec. 29-8s-11e. Loc.

Darrow—Ascension Parish

Humble O. & R. Co. No. 16 Community, sec. 29-10s-2e. Drlg. sdy. sh. 5,775 ft.
Kiva Oil Co. No. 1 Duplessis, sec. 69-10s-2w. R.U.

Dog Lake—Terrebonne Parish

Texas Co. No. 18 State, sec. 5-22s-16e. T.D. 7,606 ft.; P.B. 1,564 ft.; drlg. sh. 6,311 ft.
Texas Co. No. 20 State, sec. 5-22s-16e. T.D. 6,850 ft.; 7-in. csg. 6,825 ft.; I.P. 1,537 B.P.D.; ¼-in. ck.

Edgerly—Calcasieu Parish

Crusader Pet., Inc., No. 1 Miller Bros., sec. 27-9s-11w. 7-in. csg. 6,078 ft.; T.D. 6,523 ft.; rmg.

Four Isle—Terrebonne Parish

Texas Co. No. 9 L.L.&E., sec. 24-21s-16e. T.D. 8,553 ft.; fsg.

Garden Island—Plaquemines Parish

Texas Co. No. 24 State, sec. 37-23s-33e. T.D. 5,596 ft.; salt; P.B. 3,464 ft.; drlg. sh. 4,544 ft.

Gillis—Calcasieu Parish

Union Sulphur Co. No. 7 Kaufman, sec. 13-9s-8w. T.D. 7,079 ft.; 5-in. csg. 7,052 ft.; swbd. S.W.; P. B. 6,898 ft.; swbd. S.W.; fsg. for screen; P.B. 7,057 ft.; to sdtrk.
Union Sulphur Co. No. 2 Mary McIvor, sec. 14-9s-8w. Drlg. sh.&L. 5,396 ft.

Hackberry—Cameron Parish

W. T. Burton No. 3 Lewis, sec. 22-12s-10w. R.U.
W. T. Burton No. 1 Porter Ellender, sec. 27-12s-10w. T.D. 5,578 ft.; 7-in. csg. 4,950 ft.
M. P. O'Meara No. 1 Rigmaden heirs, sec. 22-12s-10w. Drk.
Stanolind O. & G. Co. No. 6 Duhon, sec. 22-12s-10w. Drlg. sh. 4,259 ft.
Stanolind O. & G. Co. No. 8 Carter & Sweeney, sec. 22-12s-10w. R.U.
Stanolind O. & G. Co. No. 10 Carter & Sweeney, sec. 22-12s-10w. Drk.
Stanolind O. & G. Co. No. 7 Duhon, sec. 22-12s-10w. 10¾-in. csg. 1,402 ft.
Stanolind O. & G. Co. No. 26 Gulf Ld., sec. 22-12s-10w. 10¾-in. csg. 1,644 ft.; drlg. sh.&L. 4,513 ft.
Stanolind O. & G. Co. No. 27 Gulf Ld., sec. 22-12s-10w. Bldg. drk.
Texas Co. No. 23-B State, sec. 12-12s-9w. T.D. 5,448 ft.; P.B. 2,409 ft.; T.D. 7,274 ft.; P.B. to sdtrk.; drlg. sh. 7,376 ft.

Lockport-Cameron Parish

Magnolia Pet. Co. No. 35 Miller, sec. 9-10s-9w. Drlg. sd. rk. 6,027 ft.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1 Teche Sugar Co., sec. 58-13s-8e. R.U.

Jennings—Acadia Parish

Frank W. Bennett et al No. 1 Brethern and Christ Church, sec. 41-7s-2w. T.D. 7,107 ft.; D.S. stuck; shot: P.B. 5,586 ft.; to sdtrk.
W. T. Burton No. 4 Roboria, sec. 41-9s-3w. Drlg. sh.&L. 6,154 ft.
Crusader Pet., Inc., No. 1 E. H. Grace, sec. 45-9s-2w. Drlg. sd.&sh. 3,607 ft.
Glassell & Glassell No. 2 McFarland, sec. 41-9s-2w. Drlg. sd.&sh. 6,724 ft.
Glassell & Glassell No. 4 Trushell, sec. 42-9s-3w. Drlg. sh. 2,099 ft.
Gulf Ref. Co. No. 39 Arnaudit, sec. 47-9s-2w. R.U.
Jolly Pet. Co. No. 2 McFarlain, sec. 41-9s-2w. Bldg. drk.
Ladak Oil Co. No. 2 Jennings-Clement, sec. 46-9s-2w. T.D. 2,055 ft.; 6-in. csg. 2,055 ft.
M. P. O'Meara No. 1 Moresi, sec. 41-9s-2w. Drk.
Jolly Pet. Co. No. 5 Jennings-Haywood, sec. 46-9s-2w. Drk.
Reiter Foster Oil Co. No. 2 Crusel, sec. 42-9s-2w. Drlg. sd.&sh. 3,690 ft.
Shell Pet. Corp. No. 3 Community, sec. 40-9s-2w. Drlg. sh. 4,730 ft.
Stanolind O. & G. Co. No. 19 Houssiere-Latrelle, sec. 47-9s-2w. Drlg. sdy. sh. 3,989 ft.
Superior Oil Co. No. 8 Leckelt, sec. 42-9s-2w. Drlg. sd. 5,593 ft.
Superior Oil Co. No. 7 Leckelt, sec. 42-9s-2w. T.D. 4,743 ft.; twisted off drill collar.
Superior Oil Co. No. 4 Jennings-Haywood, sec. 41-9s-2w. T.D. 6,500 ft.; run csg.
Superior Oil Co. No. 3 Moresi, sec. 41-9s-2w. T.D. 6,748 ft.; stuck D.S.; sdtrkg. 5,038 ft.; drlg. sd.&L. 6,220 ft.

Lafitte—Jefferson Parish

Texas Co. No. 7 L.L.E., sec. 20-17s-24w. Drlg. sh.&L. 9,302 ft.
Texas Co. No. 8 Rigolet, sec. 29-17s-24e. 13⅜-in. csg. 1,923 ft.
Texas Co. No. 1 State-Bayou Norman, sec. 28-17s-24e. T.D. 12,115 ft.; D.S. stuck.

Lake Barre—Terrebonne Parish

Texas Co. No. 141 State, sec. 40-21s-19e. S.D. 3,744 ft.; sdtrkd.; T.D. 3,641 ft.; P.B. and sdtrkd.; drlg. sh. 3,234 ft.

Lake Hermitage—Plaquemines Parish

Gulf Ref. Co. No. 7 Lafourche, sec. 18s-25e. 7-in. csg. 8,074 ft.; drlg. sh. 8,238 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 13 State, sec. 8-23s-18e. Drlg. sd.&sh. 6,040 ft.

Lake Washington—Plaquemines Parish

Humble O. & R. Co. No. 25 Cockrell, sec. 35-20-26e. T.D. 6,357 ft.; recvd. 14 stands P.L.O.; 75 lbs. pres. on D.S.T.

Lockport—Calcasieu Parish

Magnolia Pet. Co. No. 35 Miller, sec. 9-10s-9w. Drlg. sd. rk. 6,007 ft.

Lake Long—Lafourche Parish

Fohs Oil Co. No. 2 State, sec. 65-17s-19e. R.U.
Fohs Oil Co. No. 3 State, sec. 65-17s-19e. 10¾-in. csg. 2,743 ft.; core sh. 9,482 ft.

New Iberia—Iberia Parish

Wm. Hellis No. 3 Schwing, sec. 57-12s-7e. T.D. 5,019 ft.; P.B. and sdtrkd.; salt 5,509 ft.; P.B. 2,650 ft.; T.D. 3,949 ft.; 7-in. csg. 3,920 ft.; L. 4,524 ft.; no report.
Texas Co. No. 3 Bryant, sec. 25-12s-7e. R.U.
Wm. Hellis No. 9 Bernard, sec. 54-12s-7e. T.D. salt 5,171 ft.; P.B. and sdtrkd.; sd.&sh. 4,538 ft.; no report.
Wm. Hellis No. 10 Bernard, sec. 54-12s-7e. R.U.
Wm. Hellis No. 11 Bernard, sec. 54-12s-7e. Rk. 3,702 ft.; no report.
Wm. Hellis No. 6 Bullock-Burke, sec. 25-12s-7e. T.D. 4,817 ft.; P.B. and sdtrkd.; T.D. 4,769 ft.; P.B. 2,700 ft.; drlg. sdy. L. 4,243 ft.; no report.
Texas Co. No. 1 Burke, sec. 56-12s-8e. R.U.
Texas Co. No. 4 Duke, sec. 26-2s-7e. Drlg. sh. 4,607 ft.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 1 Antonohlenforst, sec. 45-8s-1e. T.D. 8,117 ft.; S.O. and S.W. on D.S.T.; 7-in. csg. 8,117 ft.; perf. 8,101-05 ft.
Humble O. & R. Co. No. 1 Habetz, sec. 3-9s-1e. R.U.R.
Humble O. & R. Co. No. 1 L. Laumbrecht, sec. 4-9s-1e. Drlg. sh. 2,000 ft.

Roanoke—Jeff Davis Parish

Humble O. & R. Co. No. 9-B Devilbiss, sec. 11-9s-4w. Drlg. sh. 3,930 ft.

Sorrento—Ascension Parish

Sorrento Oil Co. No. 1 L. L. Barnard et al, sec. 16-10s-4e. R.U.

South Elton—Jeff Davis Parish

Stanolind O. & G. Co.-Amerada Pet. Corp. No. 3-B Calcasieu Natl. Bank, sec. 27-7s-3w. R.U.

South Jennings—Jeff Davis Parish

Loffland Bros. No. 1 Fontenot, sec. 16-10s-3w. Drlg. sdy. sh. 8,435 ft.

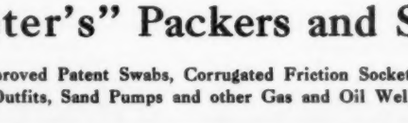
Starks—Calcasieu Parish

Capital Oil Co. No. 1 Lutcher-Moore, sec. 24-9s-13w. R.U.
Lutcher Moore No. 3 fee, sec. 19-8s-12w. Drlg. sd. and bldrs. 1,309 ft.
Turnbull et al No. 2 Industrial Lbr. Co. sec. 19-9s-12w. T.D. 4,861 ft.; perf. csg. 4,635-45 ft.; swbg.; show some gas, no oil.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 852 fee, sec. 29-9s-10w. Drlg. sh. 1,031 ft.
Union Sulphur Co. No. 849 fee, sec. 29-

Hoard Exploration Co.
Seismograph Surveys
618 Esperson Bldg.
Houston - - Texas


C. M. HEETER, SONS & CO., INC.
MAIN OFFICE AND WORKS, BUTLER, PA.
"Heeter's" Packers and Swabs
Heeter's Improved Patent Swabs, Corrugated Friction Sockets, Wire Line Pumping Outfits, Sand Pumps and other Gas and Oil Well Materials.

9s-10w. T.D. 5,104 ft.; 7-in. 5,089 ft.; failed to flow; R.U. to pmp.; I.P. 172 bbls.; pmpg.
Union Sulphur Co. No. 851 fee, sec. 29-9s-10w. Drlg. sh. 1,927 ft.

St. Martinsville—St. Martin Parish

Tide Water Oil Co. No. 1-B Smedes, sec. 18-11s-6e. Drlg. sd. rk. 8,711 ft.

Valentine—Lafourche Parish

Pan American Prod. Co. No. 10 Harang, sec. 7-17s-20e. T.D. 6,977 ft.; P.B. 3,000 ft.; drlg. sdy. sh. 4,293 ft.
Pan American Prod. Co. No. 12 Harang, sec. 7-17s-20e. Drlg. sh. 1,742 ft.
Pan American Prod. Co. No. 13 Harang, sec. 8-17s-20e. R.U.

Venice—Plaquemines Parish

Tide Water Oil Co. No. 4 Manhattan Fruit Co., sec. 26-21s-30e. Drlg. sh. 6,338 ft.

Vinton—Calcasieu Parish

Katina Oil Co. No. 2 Vincent, sec. 34-10s-12w. T.D. 4,140 ft.; sdtrkd.; T.D. 3,215 ft.; 7-in. csg. 3,215 ft.; swbd. S.W.; plg. screen.
Superior Oil Co. No. 1 Gray, sec. 4-11-12w. 7⅝-in. csg. 3,907 ft.; drlg. sd.&sh. 6,495 ft.
Vinton Pet. Co. No. 23 Vincent, sec. 34-10s-12w. T.D. 3,256 ft.; 5-in. csg. 3,256 ft.; perf. csg. 2,988-3,008 ft.; swbd. oil and wash wtr.

White Castle—Iberville Parish

T. D. Humphray No. 1 E. B. Adams, sec. 1-11s-12e. S.D. 6,067 ft.; P.B. and sdrkd.; drlg. sh. 5,601 ft.
Shell Pet. Corp. No. 5 Shingle, sec. 12-11s-12e. 10¾-in. csg. 1,400 ft.; T.D. 6,444 ft.; run tbg.

S. LOUISIANA WILDCATS

Acadia Parish

H. E. Dalton No. 1 Setting, sec. 17-7s-1w. T.D. 5,106 ft.; P.B. to approx. 500 ft.; drlg. sh. 1,600 ft.
Gulf Oil Corp. No. 1 Euclia Broussard, sec. 49-10s-2w. Drlg. sh. 6,540 ft.
Humble O. & R. Co. No. 1 R. A. Sarver, sec. 35-10s-1e. T.D. 9,526 ft.; rmg.; to set 9⅝-in. csg.
Magnolia Pet. Co. No. 1 Duson, sec. 14-8s-2w. Drlg. sdy. sh. 7,175 ft.
T. S. Markley No. 1 Daigle, sec. 19-7s-2e. T.D. 6,914 ft.; fsg.

Calcasieu Parish

D. & D. Oil Co. No. 2 Lutcher-Moore, sec. 1-8s-13w. T.D. 8,340 ft.; run 9⅝-in. csg. drlg. plug; csg. colpsd.; drlg. sh. 8,475 ft.
Federal Pet. Co. No. 1 Sabine Tram Co., sec. 25-18s-14w. 10¾-in. csg. 1,981 ft.; drlg. sdy. sh. 5,010 ft.
Union Sulphur Co. No. 1 J. A. Bel, sec. 10-10s-10w. 10¾-in. csg. 1,216 ft.; drlg. sd.&L. 6,940 ft.
Wheeler Oil Corp. No. 2 Sch. Ld., sec. 16-9s-7w. R.U.

Cameron Parish

Humble O. & R. Co. No. 1 Miami Corp., sec. 8-14s-5w. 20-in. pipe set 188 ft.; drlg. sh. 6,238 ft.

Cameron Parish—Gulf of Mexico

Superior Oil Prod. Co. et al No. 1 State Gulf of Mexico, 3,800 ft. W, 6,200 ft. N of SE cor. of irregular sec 4-15s-8e. 10¾-in. csg. 1,157 ft.; drlg. sh. 4,512 ft.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Elliott, sec. 3-9s-2e. T.D. 6,127 ft.; D.S. stuck.

Evangeline Parish

Schlicher Prod. Co. No. 1 J. A. Perkins, sec. 35. Drlg. sh. 3,485 ft.

Iberia Parish

Texas Co. No. 2-B Vermilion Bay, sec. 20-16s-5e. Drlg. sdy. sh. 7,274 ft.

Jefferson Parish

Triangle Oil Co. No. 1 Conroe, sec. 12-12s-11e. T.D. 3,752 ft.; D.S. stuck.

Jefferson Davis Parish

Continental Oil Co. No. 1 Faye, sec. 31-10s-3w. 10¾-in. csg. 1,999 ft.
Humble O. & R. Co. No. 1 T. S. Stegall, sec. 20-9s-5w. Drlg. sd. and clay 180 ft.
Union Sulphur Co. No. 1 Calcasieu National Bank, sec. 12-9s-6w. Drlg. sh.& sd. 7,077 ft.

Lafourche Parish

Amerada Pet. Corp. No. 1 South Coast Corp., sec. 34-15s-19e. T.D. 8,745 ft.; 9⅝-in. csg. 7,636 ft.
Gulf Oil Corp. No. 3 State P.P., sec. 36-23s-21e. Recvd. 1,000 ft. of oil on 6-min D.S.T. at 6,749-6,846 ft.; 9⅝-in. csg. 6,832 ft.; drlg. 7,121 ft.; rec. 2,000 ft. P.L.O. on D.S.T. 6,958-70 ft.; T.D. 7,286 ft.; P.B. 6,971 ft.; top salt 7,741 ft.; T.D. 8,728 ft.; salt; using hole for geophysical work.
Wm. Helis No. 2 City of New Orleans, sec. 19-23s-23e. 10¾-in. csg. 2,646 ft.

Plaquemines Parish

Gulf Oil Corp. No. 3 State (Jackson dist), Core sdy. sh. 8,109 ft.
Humble O. & R. Co. No. 9 Orleans Levee Bd., sec. 12-18s-15e. T.D. 1,200 ft.

St. Bernard Parish

Southern Sulphur Co. No. 2 State Lake Borgne, sec. 38-14s-15e. 13⅜-in. csg. 308 ft.; T.D. 3,461 ft.; 7-in. csg. 3,461 ft.
Texas Co. No. 4 State, sec. 14-10s-9e. Drive piling.

St. Martin Parish

Shell Pet. Corp. No. 1 Unit, sec. 11-14s-12e. M.I.
Texas Co. No. 10 St. Martin, sec. 15-8s-7e. Drlg. sh.&L. 7,719 ft.

St. Mary Parish

Shell Pet. Corp. No. 1 Barbour, sec. 21-15s-12e. Bldg. drk.
Texas Co. No. 1 State-Bateman Lake, sec. 21-16s-12e. 7⅝-in. csg. 10,515 ft.; T.D. 11,879 ft.: soft formation; rmg. to bttm.

Terrebonne Parish

Barnsdall Oil Co. No. 1 Dilbert, Stark & Brown Sur., sec. 10-16s-15e. Drlg. sh. 9,053 ft.

Vernon Parish

Castor Creek Drlg. Co. No. 1 Llano Del Rio, Inc., sec. 34-2n-9w. Drk.

TEXAS

Week Ending October 30

GULF COAST FIELDS

Hastings—Brazoria County

Humble O. & R. Co. No. 2 C. W. Alexander, H.T.&B. Sur. No. 28. Drlg. sh. 1,280 ft.
Humble O. & R. Co. No. 3-D W. F. Beers, Perry & Austin Sur. Drlg. sh. 3,787 ft.
Humble O. & R. Co. No. 10-B Brown, Perry & Austin Sur. Drk.
Humble O. & R. Co. No. 2 S. A. Giesling, H.T.&B. Sur. No. 29. Drlg. sh. 1,249 ft.
Humble O. & R. Co. No. 1 O'Day, H.T.&B. Sur. No. 28. T.D. 6,080 ft.; 5½-in. csg. 5,900 ft.; I.P. 617 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 2 W. G. McDeed, H.T.&B. Sur. No. 30. Drlg. sh. 3,700 ft.
Humble O. & R. Co. No. 8 South Texas Grain Co., Perry & Austin Sur. Drlg. sh. 5,338 ft.
Pearland Oil Co. No. 2 C. H. Alexander, H.T.&B. Sur. No. 28. T.D. 6,088 ft.; tstg.
Producers Inv. Co. No. 2 Alexander, H. T.&B. Sur. No. 28. T.D. 6,080 ft.; tstg.
Prod. Inv. Co. No. 4 Alexander, H.T.& B. Sur. No. 28. Drlg. sh. 3,712 ft.; no report.
Stanolind O. & G. Co. No. 6 Autrey, H.T. &B. Sur. No. 37. Drlg. sh. 4,004 ft.
Stanolind O. & G. Co. No. 4 Droegmeyer, H.T.&B. Sur. No. 36. Drlg. L. 4,389 ft.
Stanolind O. & G. Co. No. 6 T. C. Edwards, Wm. Henry Sur. Drlg. sd. 5,980 ft.
Stanolind No. 6 Brown, H.T.&B. Sur. No. 29. R.U.
Stanolind O. & G. Co. No. 3-B W. H. Avitts, H.T.&B. Sur. Drk.
Stanolind O. & G. Co. No. 15-B M. Curkett, H.T.&B. Sur. No. 30. T.D. 6,077 ft.; I.P. 640 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 2 Drury, H.T. &B. Sur. No. 29. T.D. 6,115 ft.; perf. csg. 6,030-40 ft.; I.P. 590 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 2 Matushita, H. Stevens Sur. 10¾-in. csg. 1,227 ft.; drlg. sh. 5,750 ft.
Stanolind O. & G. Co. No. 3-C H. Moore, R. A. Magee Sur. T.D. 6,080 ft.; 7-in. csg. 6,079 ft.; I.P. 324 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 4-C Moore, R. A. Magee Sur. Drlg. sh.&shells 4,237 ft.
Stanolind O. & G. Co. No. 5-C Moore, R. A. Magee Sur. R.U.
Stanolind O. & G. Co. No. 1 Peck, H.T.& B. Sur. No. 37. T.D. 6,092 ft.; 7-in. csg. 6,089 ft.
Stanolind O. & G. Co. No. 1 Remley, H. T.&B. Sur. No. 28. T.D. 6,080 ft.; perf. csg. 6,036-76 ft.; tstg.
Stanolind O. & G. Co. No. 2 Sparks, H.T. &B. Sur. No. 29. Drlg. sh. 1,236 ft.
Stanolind O. & G. Co. No. 13 B. L. Turner, A.C.H.&B. Sur. T.D. 6,080 ft.; perf. csg. 6,018-50 ft.; I.P. 578 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 14 Turner, A. C.H.&B. Sur. No. 1. T.D. 6,080 ft.; I.P. 537 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 17 Turner, A. C.H.&B. Sur. No. 1. T.D. 6,080 ft.; 7-in. csg. 6,079 ft.
Stanolind O. & G. Co. No. 2 Wagner, T.D. 5,700 ft.; 7-in. csg. 5,697 ft.; perf. csg. 5,363-90 ft.; I.P. 560 B.P.D.; ¼-in. ck.
R. M. Stevens et al No. 1 Barnes, W. D. C. Hall Sur. T.D. 6,125 ft.; abd.

Lockridge—Brazoria County

Gulf Oil Corp. No. 4 Carrie Baker, J. W. Hall Sur. 10¾-in. csg. 1,332 ft.; drlg. sdy. sh. 5,944 ft.
Gulf Oil Corp. No. 1 Great Southern, E. D. Robertson Sur. 9⅝-in. csg. 7,145 ft.; drlg. sdy. sh. 8,888 ft.
Kirby Pet. Co. No. 2 Carrie Baker, J. W. Hall Sur. 10¾-in. csg. 1,400 ft.; T.D. 6,367 ft.
McCurdy and Johnson No. 1 State, Brazos River. Drlg. sh. 4,950 ft.
Shell Pet. Corp. No. 2-B Ramsey, J. W. Hall Sur. T.D. 6,361 ft.; 7-in. csg. 6,361 ft.
Shell Pet. Corp. No. 4 Ramsey, J. W Hall Sur. T.D. 6,373 ft.; flwg. into pits; no ga.

Manvel—Brazoria County

Texas Co. No. 31 Houston Oil Field Assn., A.C.H.&B. Sur. Spd.
Texas Co. No. 5 C. L. Lemmer, T. Spraggins Sur. Drlg. gbo. 1,138 ft.

Old Ocean—Brazoria County

Harrison & Abercrombie No. 2 Armstrong, Polly & Chance Sur. Spd.
Harrison & Abercrombie No. 1 Land and Barnes, C. Breen Sur. Drlg. sh. 8,897 ft.
Harrison & Abercrombie No. 1 Smith, C. Breen Sur. 9⅝-in. csg. 7,016 ft.; T.D. 10,638 ft.; run 7-in. csg.

Pledger—Brazoria County

Humble O. & R. Co. No. 1 Norton, Gray & Moore Sur. T.D. 6,790 ft.; W.O.C.

Sandy Point—Brazoria County

H. J. DeArman No. 1 Edmundson, D. Talley Sur. T.D. 6,606 ft.; 7-in. csg. 6,526 ft.; tstg.
H. J. DeArman No. 3 Fite, D. Talley Sur. T.D. 6,520 ft.; P.B. 6,514 ft.; tstg.
Stanolind O. & G. Co. No. 2 Fite, D. Talley Sur. 9⅝-in. csg. 995 ft.; drlg. sh. 6,378 ft.

West Columbia—Brazoria County

Texas Co. No. 17 Abrams, Geo. Tennille Sur. Drlg. sd.&L. 4,493 ft.
Texas Co. No. 18 Abrams, George Tennille Sur. R.U.
Texas Co. No. 88 Hogg, George Tennille Sur. Drlg. sd. 644 ft.
Texas Co. No. 87 Hogg, Tennille Lge. Abd.; salt 2,635 ft.
Texas Co.-Sterling O. & R. Co. No. 4 Phillips, Geo. Tennille Sur. 10-in. csg. 1,195 ft.; drlg. sh.&L. 3,385 ft.
Texas Co. No. 2 T. L. Smith, Geo. Tennile Sur. Drlg. sdy. sh. 4,294 ft.

Calhoun—Heyser—Victoria County

Blanco Oil Co.-Buchanan No. 2 Dunn-Woody, A. Sisneros Sur. T.D. 5,607 ft.; 7-in. csg. 5,602 ft.
Blanco Oil Co.-Buchannan No. 3 C. S. Dunnwoody, A. Sisneros Sur. Drk.
Geo. Echols No. 1 W. H. Bennett, J. Galban Sur. 10¾-in. csg. 915 ft.; T.D. 5,700 ft.; D.S.T. failed.
Geo. H. Echols No. 7 W. H. Bennett, J. E. Galban Sur. Drlg. sh. 4,630 ft.
Gulf Oil Corp. No. 1 Bonner, J. E. Galban Sur. R.U.
Gulf Oil Corp. No. 1 T. P. Traylor, J. E. Galban Sur. 7-in. csg. 5,580 ft.; T.D. 5,750 ft.; tstd. S.W.
Humble O. & R. Co. No. 4 H. T. Marshall, T.D. 5,484 ft.; make D.S.T.
Humble O. & R. Co.-Plymouth Oil Co. No. 5 Marshall, A. Sisneros Sur. R.U.
Humble Oil-Plymouth Oil Co. No. 17-B Welder, A. Sisneros Sur. T.D. 5,490 ft.; 5-in. csg. 5,480 ft.
Humble O. & R. Co. No. 18-B P. H. Welder, A. Sisneros Sur. R.U.
Magnolia Pet. Co. No. 3 O. M. Lander, J. E. Galban Sur. Loc.
Magnolia Pet. Co. No. 4 Lander, J. Galban Sur. Core 5,850 ft.
Normandie Oil Co. No. 7 J. G. Cook, A. Sisneros Sur. T.D. 5,755 ft.; salt wtr. sd.; P.B. 5,587 ft.; perf. csg. 5,583-90 ft.; I.P. 162 B.P.D.; ⅛-in. ck.
Normandie Oil Co. No. 8 J. G. Cook, A. Sisneros Sur. R.U.
Normandie Oil Co. No. 9 Cook, A. Sisneros Sur. R.U.
Portilla Drlg. Co. No. 10-C P. H. Welder, A. Sisneros Sur. T.D. 1,048 ft.; T.D. 5,480 ft.; make D.S.T.
Sun Oil Co. No. 3 W. N. Coffey, J. Galban Sur. T.D. 5,740 ft.; 7-in. csg. 5,740 ft.

Anahuac—Chambers County

Humble O. & R. Co. No. 5 Boyt, sec. 44, H.&T.C. Sur. T.D. 7,057 ft.; rmg. to run csg.
Humble O. & R. Co. No. 4 Broussard, sec. 63, H.&T.C. Sur. T.D. 7,204 ft.; P.B. 7,104 ft.; 5½-in. csg. 7,060 ft.; I.P. 147 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 16 G. C. Johnson, sec. 57, H.&T.C. Sur. Drk.

Cotton Lake—Chambers County

Humble O. & R. Co. No. 1 Casey, S. Barrow Sur. T.D. 6,520 ft.; run 7-in. csg.
Humble O. & R. Co. No. 2 Howard, B. Winfree Sur. Drk.
Texas Crusader Oil Co. No. 9 Kilgore, J. Townsend Sur. T.D. 6,290 ft.; 7-in. csg. 6,282 ft.; flwd. oil and S.W.; P.B.; 6,287 ft.; tstd. S.W.

Seabreeze—Chambers County

Sun Oil Co. No. 3 Acorn, H.T.&B. Sur. 103. 13⅜-in. csg. 1,393 ft.; T.D. 8,494 ft.; cmtd. 9⅝-in. csg. on bttm.; T.D. 8,822 ft.; set retainer at 8,473 ft.; 5-in. csg. 8,373 ft.; I.P. 740 B.P.D.; ¼-in. ck.

Turtle Bay—Chambers County

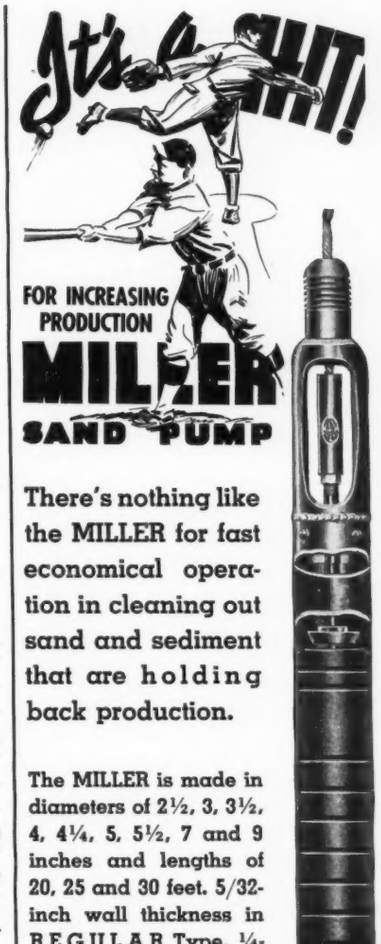
Stanolind O. & G. Co. No. 3 Cooper, S. Burney Sur. T.D. 6,608 ft.; 7-in. csg. 6,590 ft.; I.P. 626 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 4 Cooner, S. Burney Sur. T.D. 127 ft.; W.O.C.
Stanolind O. & G. Co. No. 5 Silva, S. Burney Sur. Drlg. 600 ft.
Sun Oil Co. No. 7 Chambers, S. Burney Sur. R.U.

Orchard—Fort Bend County

Gulf Oil Corp. No. 53 Moore, J. Frazier Sur. Drlg. sh. 5,217 ft.; no report.
Gulf Oil Corp. No. 55 J. M. Moore, J. Frazier Sur. R.U.

Dickinson—Galveston County

Atlantic Ref. Co. No. 3 Lippman, W. G. Banks Sur. Drlg. 1,850 ft.
Atlantic Ref. Co. No. 4 Sealy Hutchins, P. G. Merritt Sur. T.D. 8,075 ft.; perf. csg. 8,056-60 ft.; I.P. 592 B.P.D.; ¼-in. ck.
Frank Bennett No. 3 Way, P. G. Merritt Sur. R.U.
Coast Pet. Co. No. 8 Stewart, W. K. Wilson Sur. Spd.



There's nothing like the MILLER for fast economical operation in cleaning out sand and sediment that are holding back production.

The MILLER is made in diameters of 2½, 3, 3½, 4, 4¼, 5, 5½, 7 and 9 inches and lengths of 20, 25 and 30 feet. 5/32-inch wall thickness in REGULAR Type, ¼-inch wall tubes HEAVY Type Sand Pumps.

INTERCHANGEABLE BOTTOMS
To Meet Every Condition

● **BAILER BOTTOM**
With the Bailer Bottom installed the MILLER is quickly changed to a Bailer giving you a combination of either Bailer or a Sand Pump in one tool.

● **SAND BOTTOM**
Used when tools are run and when well is shot to quickly remove loose material.

● **STAR BOTTOM**
Used for cutting the sand loose.

● **CHISEL BOTTOM**
(In Pump)
With this bottom tightly packed sand can be easily broken in small pieces so it can be picked up in the pump.

Write for Descriptive Folder and Price List

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PATENTED NO. 1270340 NO. 1523606 NO. 1787390 NO. 1862628 NO. 1956028 NO. 2055667

MILLER Sand Pump Co.

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OKLAHOMA CITY, OKLA., U. S. A.

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FOR SALE BY SUPPLY STORES EVERYWHERE

J. K. Hughes Oil Co. No. 1 J. C. Ecret, W. K. Wilson Sur. Drlg. sh. 2,738 ft.
Humble O. & R. Co. No. 1 M. H. Kreisle, W. K. Wilson Sur. Drk.
Humble O. & R. Co. No. 5-A Stewart, W. K. Wilson Sur. T.D. 8,980 ft.; W.O.C.
Pure Oil Co. No. 2-A Sealy Hutchins, P. G. Merritt Sur. T.D. 6,646 ft.; W.O.C.
Pure Oil Co. No. 1 Sam Levine, W. G. Banks Sur. Drlg. sdy. L. 6,327 ft.
Stanolind O. & G. Co. No. 4 Damiani, W. K. Wilson Sur. 16-in. csg. 300 ft.; drlg. sh.&L. 4,140 ft.
Humble O. & R. Co. No. 1 Wm. Rhoman, J. Sellers Sur. R.U.

High Island—Galveston County

Stanolind O. & G. Co. No. 10 B.&O., M. Dunman Sur. 10¾-in. csg. 1,315 ft.; T.D. 6,658 ft.; 7-in. csg. 6,653 ft.
Stanolind O. & G. Co. No. 63 Cade, M. Dunman Sur. 10¾-in. csg. 1,311 ft.; drlg. sd. 6,081 ft.

Silsbee—Hardin County

Republic Prod. Co.-Houston Oil Co. No. 24 Brooks, G. W. Brooks Sur. T.D. 6,-321 ft.; pulled in drk.
Republic Prod. Co.-Houston Oil Co. No. 25 Brooks, G. W. Brooks Sur. Spd.

Fairbanks—Harris County

Amerada-Stanolind O. & G. Co. No. 3 Carpenter, F. Fry Sur. Drlg. sh. 6,-200 ft.

Clinton—Harris County

Stanolind O. & G. Co. No. 1 M. E. Oates, Reels & Trobough Sur. Drlg. sh. 803 ft.

Friendswood—Harris County

Circle Oil Co. No. 1 E. B. Ross, George Dedrick Sur. R.U.
H. C. Cockburn No. 1 Barnes. Drlg. sh. 5,912 ft.
Humble O. & R. Co. No. 3 Beamer, T. Choate Sur. Top sd. 5,706 ft.; T.D. 5,-940 ft.; 5½-in. csg. 5,700 ft.; I.P. 240 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 1 G. M. DeGeorge and Green, T. Choate Sur. T.D. 1,054 ft.; W.O.C.
Humble O. & R. Co. No. 1 Kiesling, T. Choate Sur. R.U.
National Standard Oil Co. No. 1 Coward, Perry & Austin Sur. Loc.

Humble—Harris County

John Deering No. 1 Wm. Lee, E. Rhuie Sur., 5,000-ft. test. T.D. 5,463 ft.; perf. csg. 5,360-63 ft.; I.P. 12 B.P.H.; ⅛-in. ck.

Mykawa—Harris County

H. C. Cockburn No. 2 Minnetex. Wm. Lovett Sur. Drlg. sh. 4,737 ft.

South Houston—Harris County

Stanolind O. & G. Co. No. 1 Dist. 18, H. T.&B. Sur. No. 5. Drlg. sh. 2,876 ft.

Tomball—Harris County

Humble O. & R. Co. No. 1 Osborne, R. Hubbard Sur. R.U.
Humble O. & R. Co. No. 2 Rudel, J. Pruitt Sur. R.U.
Humble O. & R. Co. No. 1-B W. B. Sherrer, J. House Sur. T.D. 5,570 ft.; 5½-in. csg. 5,568 ft.
Humble O. & R. Co. No. 2 N. W. Stehly, J. Pruitt Sur. T.D. 5,587 ft.; 5½-in. csg. 5,587 ft.; blew out; S.I.
Shell Pet. Corp. No. 1 Stokely, J. S. Smith Sur. Drlg. sh. 4,220 ft.

Ganado—Jackson County

Texas Co. No. 1 Mortg. Ld. & Inv. Co., Morris & Cummins Sur. No. 3. Drlg. sh. 4,671 ft.

Amelia—Jefferson County

Humble O. & R. Co. No. 10 Crook, C. Williams Sur. R.U.
Humble O. & R. Co. No. 5 Fitzgerald, C. Williams Sur. T.D. 6,776 ft.; 5½-in. csg. 6,770 ft.; I.P. 584 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 1 S. L. Guinn, C. Williams Sur. R.U.
Humble O. & R. Co. No. 12 Guinn, C. Williams Sur. Drk.
Humble O. & R. Co. No. 12 Phelan, C. Williams Sur. Drk.
Humble O. & R. Co. No. 2-C Pinchback, C. Williams Sur. R.U.
Humble O. & R. No. 2-D Pinchback, C. Williams Sur. Loc.
Glenn H. McCarthy No. 3-B Longe, H. Williams Sur. T.D. 6,095 ft.; 7-in. csg. 6,091 ft.; tstg.
Stanolind O. & G. Co. No. 1 Keith, H. Williams Sur. T.D. 5,400 ft.; 7-in. csg. 5,349 ft.
Stanolind O. & G. Co. No. 7 McCormick, H. Williams Sur. T.D. 5,396 ft.; 7-in. csg. 5,366 ft.
Stanolind O. & G. Co. No. 8 McCormick, H. Williams Sur. Drlg. sh.&L. 3,769 ft.
Sun Oil Co. No. 1 W. D. Gordon, A. Houston Sur. Drlg. sdy. sh. 4,650 ft.
Texas Co. No. 2 Pansy Yount, A. Houston Sur. Bldg. drk.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 2 May Fitzhugh, Wm. McFadden Sur. T.D. 4,047 ft.; 10¾-in. csg. 4,040 ft.; drlg. sh. 4,-715 ft.
Stanolind O. & G. Co. No. 4-A Pipkin. T.&N.O. Sur. Drlg. sd.&sh. 5,321 ft.

Fannett—Jefferson County

Gulf Oil Corp. No. 1 Junker-Spencer, W. H. Smith Sur. Drlg. sh. 6,879 ft.

LaBelle—Jefferson County

Sun Oil Co. No. 1 John Ward, 933 ft. S of No. 2 Broussard, Wm. Burton Sur 18⅝-in. csg. 109 ft.; 9⅝-in. csg. 8,538 ft.; 7-in. csg. 9,951 ft.; T.D. 10,147 ft.; cmtd. off bttm.; drld. cmt. to 10,060 ft.; run 2½-in. tbg. to test; came in as gas well; C.P. 4,200 lbs.; killed; pulled tbg.; set cmt. retainer at 8,950 ft.; perf. csg. 8,760-75 ft.; tstd 14 jts. of mud.

Nome—Jefferson County

Lee Bros. Oil Co. No. 1 F. C. Wilson, C. L. Nash Sur. R.U.
Shell Pet. Corp. No. 4-A Texas Public Service Co., W. H. Aldridge Sur. R.U. as relief well; drlg. 4,000 ft.
Sun No. 8 Long, J. Blair Sur. Drlg. sh. 4,875 ft.
Sun Oil Co. No. 2 Tindall, A. Horton Sur. 7-in. csg. 5,645 ft.; T.D. 6,070 ft.; P.B. 5,680 ft.; tstg.

Cleveland—Liberty County

Gulf Oil Corp. No. 2-C Kirby Lbr. Co., J. Pleasants Sur. Drlg. sh. 4,730 ft.

Hardin—Liberty County

Jack Frazier No. 1 Buffam-Benning, J. Robeson Sur. R.U.
J. W. Frazier No. 1-B Lynott and Buffman, J. Robeson Sur. Core sh. 7,385 ft.
Gulf Oil Corp. No. 1 V. B. Hinson, H. B. Johnston Sur. M.I.M.
Jameson-Bryon No. 1 W. B. Hinson, H. B. Johnson Sur. M.I.R.
Shell Pet. Corp. No. 1 Hanchey, H. B. Johnson Sur. T.D. 4,000 ft.
Strake Pet. Co. No. 1 W. T. Finley, A. B. Hardin Sur. 10¾-in. csg. 1,200 ft.; T.D. 7,639 ft.; P.B. 7,560 ft.; perf. 7,548-53 ft.; I.P. 6 B.P.H.; ¼-in. ck.; T.P. 1,300 lbs.; C.P. 2,800 lbs.
Strake Pet. Corp. No. 2 W. T. Finley, A. B. Hardin Sur. R.U.

Hull—Liberty County

Hamill-Smith No. 3 Barrow, J. Devore Sur. 10-in. csg. 960 ft.
Texas Co. No. 8 Barrow fee, J. Devore Sur. T.D. 4,907 ft.; 7-in. csg. 4,525 ft.; I.P. 125 B.P.D.; pmpg.
Texas Co. No. 10 Hannah, J. Devore Sur. Drlg. sh. 5,092 ft.

South Call—Newton County

Houston Oil Co.-Republic Prod. Co. No. 2 Peavy-Moore Lbr. Co., sec. 42, H.&T.C. Sur. 16-in. pipe 58 ft.; core sh. 7,327 ft.

Bay City—Matagorda County

Hamman Expl. Co. No. 1 H. E. Thompson, Hall Sur. T.D. 9,184 ft.; 7-in. csg. 9,184 ft.; W.O.C.
Smith and McDannald No. 1 Gaines, E. Hall Sur. R.U.

Buckeye—Matagorda County

United North & South Development Co No. 1 G.B.M., Cotton Lge. 7-in. csg. 8,-667 ft.; core S.W. sd. 9,236 ft.

Markham—Matagorda County

Harrison & Abercrombie No. 1-B Kountze, H. Parker Sur. T.D. 4,286 ft.; heaving sh.; P.B. 1,881 ft.

Palacios—Matagorda County

Atlantic-McCarthy No. 3 Foley Ld. Co., L. Goodwin Sur. Drk.
Atlantic-McCarthy No. 2 Palacios State Bank L. Goodwin Sur. T.D. 8,500 ft.
Glenn McCarthy No. 2 Foley, L. Goodwin Sur. T.D. 8,590 ft.; circulating; prep. to S.T. 7,956 ft.
Sun Oil Co. No. 1 Bay Shore Farms, Lewis Goodwin Sur. Drlg. sh. 10,808 ft.

Van Vleck—Matagorda County

Skelly Oil Co. No. 14-B Cobb, M. Cummins Sur. 9⅝-in. csg. 8,478 ft.; drlg. plg.

Orange—Orange County

Tillery & Ryan No. 1 Chesson, Wm. Dyson Sur. 10¾-in. csg. 1,180 ft.; core sh. 5,860 ft.

Port Neches—Orange County

Texas Co. No. 6 W. H. Starks, W. E. Hall Sur. Drlg. gbo. 1,758 ft.

Livingston—Polk County

Gem Oil Co. No. 5 Kavanaugh, A. Viesca Sur. 10¾-in. csg. 997 ft.

Segno—Polk County

Gulf Oil Corp. No. 8 Wing, sec. 14, I.&G N. Sur. T.D. 6,765 ft.; 5-in. csg. 6,630 ft.
Humble O. & R. Co. No. 2 Kirby, P. Garcia Sur. T.D. 5,196 ft.; 5½-in. csg. 5,-188 ft.; W.O.C.; I.P. 394 B.P.D.; ¼-in. ck.

Spurger—Tyler County

Republic-Houston Oil Co. No. 5 Hurd fee. N. Hurd Lge. Core sh. 7,796 ft.

Keeran—Victoria County

Gulf Oil Corp. No. 12 G. R. Keeran Est. T.D. 5,590 ft.; rng. csg.
Union Oil Co. No. 7 Keeran, M. DeLeon Sur. Drlg. sh. 5,965 ft.

Telfener—Victoria County

Gulf Oil Corp. No. 1 Mahon and Buhler, W. C. Carroll Sur. T.D. 6,167 ft.; P.B. and sdtrkd.; drlg. sh. 6,590 ft.

Clay Creek—Washington County

Sun Oil Co. No. 7 Droeger, J. F. Perry Sur. T.D. 4,410 ft.; fsg.

Five Corners—Wharton County

Texas Co. No. 10-B Pierce Est., J. Caldwell Sur. T.D. 5,650 ft.; P.B. 5,483 ft.; comp. for gas well.

Magnet—Wharton County

Atlantic Ref. Co. No. 6-B Cockburn, Smith & McKenzie Sur. Core sh. 5,500 ft.
Humble O. & R. Co. No. 3 Cockburn, Smith & McKenzie Sur. T.D. 5,540 ft.; 5½-in. csg. 5,535 ft.
Texas Crusader Oil Co. No. 3 Cockburn, Smith & McKenzie Sur. T.D. 5,540 ft.; 7-in. csg. 5,534 ft.

Pickett Ridge—Wharton County

Gilcrease Oil Co. No. 1 W. W. Duson, Gifford Sur. T.D. 4,708 ft.; perf. csg. 4,689-93 ft.; flwd. oil by hds.; run scrn.

Withers—Wharton County

Texas Co. No. 32-C Pierce Est., Wm. Pettus Sur. Drlg. sh.&L. 2,297 ft.
Texas Co. No. 39-C Pierce, J. Caldwell Sur. 16-in. csg. 33 ft.; drlg. sd.&sh. 5,-558 ft.
Texas Co. No. 3 Thompson, J. Caldwell Sur. Drlg. sd. 5,474 ft.

GULF COAST WILDCATS

Brazoria County

Pure Oil Co. No. 1 W. A. Smith, S. F. Austin Sur. 18⅝-in. csg. 139 ft.; drlg. sh. 2,537 ft.

Chambers County

Merit Oil Co. No. 1 T. and M. Wright, C Smith Sur. 10¾-in. csg. 1,302 ft.; T.D. 7,515 ft.; 7-in. csg. 6,602 ft.; perf. 6,424-34 ft.; S.D.; W.O.

Fort Bend County

Chapman Minerals Corp. No. 1 Sugarland, Geo. Brown & Belknap Sur. Drk.

Galveston County

R. R. Gray et al No. 1 Eidman, Anthony Hatch Sur. R.U.

Hardin County

Humble O. & R. Co. No. 1-A Olive Stermberg, J. Taylor Sur. R.U.

Harris County

H. C. Cockburn No. 1 White, Harris & Carpenter Sur. M.I.R.
Medford and Burke No. 1 W. A. and O. C Pruitt, Gilbert Brooks Sur. T.D. 7,696 ft.; abd.

Jackson County

Cockburn & Hargrove No. 1 Mike Strauss, A. M. Clare Sur. 10¾-in. csg. 779 ft.
Magnolia Pet. Co. No. 1-A West ranch, R. Musquez Sur. Bldg. drk.

Jefferson County

Shell Pet. Corp. No. 1 W. P. McFaddin, S. A. Pace Sur. No. 2. Bldg. road.

Liberty County

Humble O. & R. Co. No. 1 E. J. Moore, M. Whittington Sur. Drk.
Humble O. & R. Co. No. 2 Sabine Tram. Malinda Whittington Sur. (Devers area). Drlg. sh. 9,177 ft.

Madison County

Faucett & Kyle No. 1 Bailey, T. Boatwright Sur. 10-in. csg. 39 ft.; T.D. 600 ft.; S.D.; csg. on ground.
Faucett & Kyle No. 1 Connor, J. P. Phillips Sur. S.D. 1,663 ft.; reported to be in oil sd.
W. H. Lawrence No. 1 Gustavis, J. Woodruff Sur. Drlg. sh. 1,135 ft.

Matagorda County

Sun Oil Co. No. 1 Fred Robbins, C. H. Vandeveer Sur. Drlg. sh. 1,430 ft.

Orange County

Glenn H. McCarthy No. 1 Brown, B. Garner Sur. M.I.R.

Polk County

Stewart Oil Co. No. 1 E. J. Galloway, J. Ringgold Sur. 10¾-in. csg. 1,000 ft.

Refugio County

Hogan Oil Co. No. 1 Kelley, M. & A. Roache Sur. Drlg. sh. 4,930 ft.

Trinity County

Gossage-Green and Thompson No. 1 R. E. Thompson, J. A. Hickey Sur. Drk.

Victoria County

Stanolind O. & G. Co. No. 1 Henderson & Pickering, E. Benavides Sur. T.D. 7,-460 ft.; fsg.

Waller County

J. Brian Eby et al No. 1 Wm. Rice Institute, H. Stephens Sur. R.U.
Humble O. & R. Co. No. 1-A South Tex. Dev. Co., Wm. Hillhouse Sur. Loc.
Stanolind O. & G. Co. No. 1 Security Tr., H.&T.C. Sur. No. 99. R.U.

Washington County

K. D. Harrison and C. E. Starr No. 1 Charles and Wm. Ellerman, Wm Bridges Lge. 13-in. csg. 290 ft.

Walker County

G. C. Dixon No. 1 Morgan, J. Ford Sur. Drk.
W. B. Gossage et al No. 1 Carey Ld. & Dev. Co., D. McDonald Sur. S.D. 2,-220 ft.

Wharton County

Buch & Holt No. 1 Kaener, F. C. Reynolds Sur. 10¾-in. csg. 620 ft.; T.D. 6,053 ft.; abd.

S. W. TEXAS WILDCATS

Atascosa County

Brown & Bell No. 1 Atkins, 920-ac. tr., Sur. 3. Sd. 4,638-54 ft.; S.G.; D.&A. 6,-001 ft.
L. W. Steiren No. 1 Crawford, 4 mi. W of Anchorage. Sd. 2,480-90 ft.; S.O.; drlg. 2,617 ft.

Bastrop County

J. W. Bibb No. 1 Lentz, F. Wilkenson Sur. S.D. 1,030 ft.
Sunrise Oil Co. No. 1 Smith, E. Standifer Sur. O.W.W.O.; old T.D. 2,502 ft.; prep. P.B. 1,712 ft.

Bell County

W. H. Vernor No. 1 McQueen, 9 mi. S of Belton. S.D. 2,100 ft.; (cor.).

Caldwell County

Fain Gillock No. 1 Kelly, Berry Sur. T.D. 1,692 ft.; S.O.; setting csg.
Heard & Heard No. 1 Brown, McCarley Sur. Spd.; set 10-in. csg. 60 ft.; W.O.C.

Comal County

J. R. Yates No. 2 Heidrich, Heidrich ranch. S.D. 2,000 ft.

DeWitt County

Whitex Oil Co. No. 1 Kerlick, Sewell Sur. Drlg. 4,421 ft.

Dimmitt County

Teas & Maryland Corp. No. 1 McKnight, Blk. 13, sec. 23. S.D. 3,233 ft.

Duval County

T. R. Andrews No. 1 Hazelwood, Hopkins Sur. R.U.
Hamil & Smith No. 1 Gruy, Sur. 155. D.&A. 3,045 ft.
Magnolia Pet. Co. No. 1 D.C.R.C., Sur. 261. Drlg. 1,468 ft.
Magnolia Pet. Co. No. 16 Herbst, Sur. 65. D.&A. 4,200 ft.
Magnolia Pet. Co. No. 1 Ruiz, Sur. 190. Drlg. 4,813 ft.
Penn-Palangana Oil Co. No. 2 Schallert, Sur. 239. S.D.; T.D. (cor.) 365 ft.
Slaughter & Hugle No. 1 Hunter Est., 80-ac. tr., sec. 515. D.S.T. 3,318-60 ft. rec. 650 ft. slightly gas-cut mud in 17 min., and 750 ft. brksh wtr.; D.&A. 4,760 ft.

Edwards County

Amon G. Carter No. 1 Sweeten, SE¼, Blk. 2, Sur. 49. Fsg.; T.D. (cor.) 5,090 ft.
C. V. Lyman No. 1 Brown, Blk. 3. R.U.

Frio County

Pagenkopf & Jamieson No. 1 Houston Est., 2,254-ac. tr., J. Figuerroa Sur. S.O. 2,610-03 ft.; set csg. to test 7-in. at 2,480 ft.; swbg.; S.O.&G. and wash wtr.; T.D. 2,651 ft.; set csg.; P.B. 2,607 ft.; swbd.; S.O.&S.W.

Goliad County

Rual Swiger No. 1-B Wood, J. Shearn Sur. Spd.

Guadalupe County

Carver & Ellison No. 1 Rumpf, Burman Sur. T.D. 2,585 ft.; comp.; est. 22 B.P.H. on ¼-in. ck.; T.P. 340 lbs.
Elimag Oil Co. No. 1 Hardiman, Dikes Sur. T.D. 2,201½ ft.; rng. csg.
Mehu Oil Corp. No. 1 Schulze, Chenault Sur. R.U.
Olsen Oil Co. No. 1 Lillard, John Tom Sur. Drlg. sh. 1,183 ft.
Wellington Oil Co. No. 1 Koepp, W. H. Smith Sur. Spd.

Hidalgo County

Atlantic Ref. Co. No. 1 American Rio Grande. Cg. 8,021 ft.
Y. & B. Oil Co. No. 1 Waite, Tr. 382, Los Jidos Gr. Cg. sh. 5,847 ft.

Jim Wells County

H. M. Hill et al No. 1 Kuether, Lots 70 and 75, sec. 52, Halderman Subd. Spdg.
Howell et al No. 1 Talbot, 181-ac. tr., Lavaca Gr. Tstd. sd. 4,507-12 ft.; W.P. 15 lbs.
Magnolia Pet. Co. No. 7 Seeligson, 10,433-ac. tr., Los Jaboncillos Gr. Cg. 7,757 ft.

Karnes County

Ivan Howard No. 1 Moczygemba, Erasmo Seguin 5, League Gr. Top sd. S.O. 2,-159 ft.; oil sd. 2,174-78 ft.; S.D., W.O. csg.

Kendall County

Landon & Peffley No. 1 Seidensticker. Sur. 257, Chorcon Gr. S.D. 530 ft.

Kennedy County

La Sal Vieja Oil Corp. No. 1 Garcia Ld. & Cattle Co., Blk. 95, Tr. 73. R.U.

Lee County

Jas. E. Pederson No. 1 Turner, David Hudson Sur. S.O.&G. 6,140-80 ft.; sdtrkd. at 4,600 ft. and drld. to 6,132 ft.; S.O.&G.; set csg. 6,021 ft.; acdzg. with 20-bbl. load; when opened well flwd. 20-bbl. head and went dead; swbd. oil and wtr.; acd.; to put on pmp.; S.D.

Live Oak County

Chiquita Oil Co. No. 1-A Taylor-Lark, Scrugham Sur. Set csg. 972 ft.; W.O.C.
L. Franklin No. 1 Odem, R. Everitt Sur. Set surf. csg.; W.O.C.
Reynosa Oil Co. No. 1 Alexander, Ayers Sur. T.D. 1,254 ft.; D.&A.
Ranco Oil Corp. No. 1 fee, 660 ft. NW and SW lines, Pointevent Sur. 3. T.A.
Standard Oil Co. of Texas No. 1 Nicholson, Thompson Sur. T.D. 3,993 ft.; D. &A.

Maverick County

Wellington Oil Co. No. 1 Chittam, 330 ft. N line, 2,310 ft. W line, sec. 129, Blk. 7. T.D. 3,287 ft.; flwd. intemittently at rate of 10 B.P.H. and went dead; acidized.; swbd. 7 B.P.H.; T.D. 3,287 ft.; acdzd.; C.O.

McMullen County

Alabama Minerals Oil Co. No. 2 Gordon, Sur. 127. Drlg. 497 ft.
Coyle & Bedwell No. 1 Two Rivers Rnch. Co., sec. 60. S.D. 10 ft.
V. G. Schimmel No. 1 Kountz, E.T.&R.R. Sur. Fsg. 1,980 ft.
C. C. Shumway No. 11 Shiner, sec. 6, Shumway Subd. D.&A. 1,857 ft.

Medina County

Adams et al No. 1 Kreisle, Sur. 908. R.U.
R. S. Bolling No. 1 McMenemy, Sur. 33½. R.U.
M. L. Walker No. 1 Riff, Hans Sur. No. 43. Drlg. sh. 311 ft.

Milam County

Kingdor Explo. Co. No. 1 Stidham. S.D. 3,818 ft.

Nueces County

Culton & Meador No. 1 Bailey Est., Blk. 65, J. Elliff Subd., Joaquin Lopez de Herrera Sur. Drlg. 3,027 ft.

Mills Bennett Prod. Co. No. 1 Johnson, sec. 125, Pauls Subd. Cg. 5,090 ft.

Richardson Pet. Co. No. 1 Cunningham, sec. 77. Set csg. 1,314 ft.; W.O.C.

Sannix Oil Co. No. 1 Nesloney, 760-ac. tr., Casa Blanca Gr. Drlg. 4,517 ft.

Seaboard Oil Corp. No. 1 John M. Luby, 466 ft. S and W lines, Blk. 1, Sh. 2, Luby Subd. D.S.T. 5,069-79 ft. rec. 330 ft. P.L.O. and 30 ft. mud, 185 lbs. W.P. in 10 min.; sd. 5,072-79 ft.; 7-in. csg. 5,079 ft.; perf. 5,071-74½ ft.; comp.: 139.24 B.P.D. on ¼-in. ck.; C.P. 1,050 lbs.; T.P. 800 lbs.

Southern Minerals Corp. No. 2 King, Blk 6, R. King Farm Lots. D.S.T. 4,020-33 ft.; rec. 640 ft. oil, 850 ft. S.W. in 20 min. at 35 lbs. W.P.; cg. 6,177 ft.

San Patricio County

Argo Oil Corp. No. 1 Soehnge, 159.66-ac. tr., Blk. 11, Schleicher & Joseph Subd., Delgado Gr. T.D. 4,962 ft.; top sd. 4,957 ft.; well tried to blow out; killed to deepen; cg. 5,737 ft.

H. J. Porter No. 1 Schmalsteig, sec. 9, Paul Subd. Drlg. 6,056 ft.

Starr County

Calderoni-James-Foliette No. 1 Rodriguez Blk. 6, Sh. 56. Porc. 80. Set 4½-in. csg. 1,483 ft.; T.D. 1,511 ft.; P.B. T.D. 1,756 ft.; S.D.; W.O.O.

Collins No. 1 Guerra, Sh. 6, San Jose Gr. Drlg. sh. 3,652 ft.

Dodd Tr. No. 1 Wardner, Vela Sur., Porc. 84. T.D. 810 ft.; S.D.

G. E. Dodd No. 1 Wood Est. Set 10-in. surf. csg. 80 ft.; W.O.C.

Sun Oil Co. No. 1-F Guerra, Salvador Garcia heirs Sur., Porc. 109. R.U.

Transwestern Oil Co. and Davenport No. 3 Slick, sec. 527. T.D. 6,862 ft.; fsg.

Travis County

W. O. Caffey No. 1 Bremond, 104.5-ac. tr., Santiago del Valle Sur. S.D. 400 ft.

W. O. Caffey No. 1 Meister, Conrad Sur. Drlg. 58 ft.

D. E. Hamer No. 1 Benson, Wilson Sur. Set 5½-in. csg. 258 ft. to shut off wtr.; W.O.C.

LaShell, Gardner & Wilson No. 1 Wilson, Blk. 1, Drlg. 416 ft.

J. E. Mills No. 1 Washington, Navarro Sur. S.D. 1,150 ft.

Webb County

French Oil Corp. No. 1 Benavides, Sur. 704. D.&A. 3,410 ft.

O. W. Killam No. 1 Garcia, Blk. 26, Los Ojuelos Sur. Cg. sh. 2,397 ft.

Lemp Oil Co. No. 1 Clark, 500-ac. tr., Porc. 33. Spd.

Mills Bennett Prod. Co. No. 1 Gates, Blk. 28, Sur. 200. Drlg. 897 ft.

Willacy County

Magnolia Pet. Co. No. 1 Armendiaz, Sh. 4, San Juan de Carricitos Sur. S.D. 5,600 ft.

Wilson County

Diamond Halff Oil Co. No. 1 Houston 200-ac. tr., Reynolds Sur. D.&A. 5,203 ft.

Arnold, Dink, Stone & Haley No. 1 Black, 1,102.3-ac. tr., hrs. of Juan and Simon Arocha Sur. S.D. 706 ft.

Pat Higgins No. 1 Higgins, Rodriguez Sur. 237. Drlg. sdy. sh. 1,326 ft.

Zapata County

Oil Country Pipe & Supply Co., Blk. 16, Sur. 11. D.&A. 2,300 ft.

S. W. TEXAS PROVEN

Lamar—Aransas County

Barnsdall Oil Co. No. 1 Kate Edwards, Lot 87, Lamar Townsite. Old T.D. 7,996 ft.; set screen for prod. tst.; S.D.; repair pmp.

McCampbell—Aransas-San Patricio Counties

Atlantic Ref. Co. No. 9-C McCampbell, Lot 2, Blk. 41. Cg. 6,707 ft.

Atlantic Ref. Co. No. 3 Maryland Trust, Blk. 23. T.D. 7,135 ft.; rng. csg.

Atlantic Ref. Co. No. 1-D Murray, Lot 3, Blk. 37. Set surf. csg. 1,500 ft.; W.O.C.

Atlantic Ref. Co. No. 4-B Porterfield, Blk 10, Lot 10. T.D. 7,186 ft.; sd. 7,183-86 ft.; washing in.

Atlantic Ref. Co. No. 5-B Porterfield, Blk. 1. Drlg. 6,313 ft.

Atlantic Ref. Co. No. 1-C Porterfield, Lot 8, Blk. 12. Cg. 8,614 ft.

Atlantic Ref. Co. et al No. 1-D Porterfield, Lot 10, Blk. 13. Set csg. 7,226 ft.; perf. 7,202-06 ft.; comp.; no ga.

Atlantic Ref. Co. No. 2-D Porterfield, Blk. 37. Set surf. csg.; W.O.C.

Atlantic Ref. Co. No. 6-D Porterfield, Blk. 37. Spd. in.

Buckingham Oil Co. No. 4-B McCampbell, Lot 16, Blk. 40. O.W.W.O.; old T.D. 7,430 ft.; comp.; 30 B.P.D.

Buckingham Oil Co. No. 1-B McCampbell, Lots 13 and 14, Blk. 40. O.W.W.O.: old T.D. 6,557 ft.; sdtrkd. 6,351 ft.; T.D. 6,559 ft.; perf. 6,538-46 ft.; completing.

Franston Oil Co. No. 1 Murray, Lot 7, Blk. 37. Drlg. 6,567 ft.

Graham Oil Co. No. 2 Edwards, Lot 16, Blk. 7. Set surf. csg. 1,250 ft.; W.O.C.

Graham & Buckingham Oil Co. No. 3 Porterfield, Blk. 9, Lot 8. Drlg. sh. 3,687 ft.

Landreth Prod. Co. No. 7-A McCampbell, Lot 1, Blk. 39. O.&G. sd. 7,099-7,124 ft.; T.D. 7,125 ft.; rng. Schlumberger.

Neill & Peterson No. 2-A McCampbell, Lot 1, Blk. 43. Set 7-in. csg. 7,118 ft.; comp.; no ga.

Norman Bertleson No. 2-A Murray, Lot 5, Blk. 37. Drlg. 4,000 ft.

Shasta Oil Co. No. 1 Davis, Lot 16, Blk. 9. Set csg. 7,130 ft.; perf. 7,104-09 ft.; completing.

Guy Warren & Carmos Drlg. Co. No. 1 Kleineck, Lot 12, Blk. 9. Cg. 6,546 ft.

North Dale—Bastrop County

Marts & Beavens No. 1 Lackey, Gray Sur. T.D. 2,225 ft.; acdzg.

Ralph R. Ogden No. 1 Riddle, K. Gray Sur. D.&A. 2,270 ft.

West Tuleta—Bee County

Salt Dome Oil Co. No. 3 Tuleta Merchantile Co., SW¼, sec. 10, Wragley Subd., Uranga Gr. Jtg.; T.D. 3,079 ft.; flwg. 5 B.P.D. oil and slugs mud; reworking.

Von Ormy—Bexar County

Ed Auge No. 1 Hernandez, Paschel Sur. 52. Drlg. sh. 277 ft.

Roger Putnam No. 9 Wetz, Simpson Sur. R.U.

Alta Mesa—Brooks County

Standard Oil Co. of Texas No. 1 Mestina, Lse. No. 1. O.W.W.O.: old T.D. 4,277 ft.; prep. P.B. to 3,562 ft.; comp.; 172 B.P.D. fluid, 70% S.W.

Standard of Texas No. 5 Mestina, Lease No. 1. 7-in. csg. set 3,220 ft.; T.D. 5,505 ft.; perf. 4,513-20 ft.; plugged and re perf. 4,520-24 ft.; perf. 4,170-74 ft. and 4,142-76 ft.; W.O.C.

Standard Oil Co. of Texas No. 10 Mestina, Lse. No. 1, La Mestina & Gonzalina Sur. Set 5½-in. csg. 2,466 ft.; drlg. plug.

Alta Verde—Brooks County

Bishop & Woods No. 1 Powers. 378-ac. tr., Sur. 311. Drlg. sdy. sh. 1,310 ft.

Branyon—Caldwell County

B. & T. Pet. Co. No. 2 Magee. J. A. Neill Sur. T.D. 2,295 ft.; set 5½-in. csg. 2,003 ft.; comp.; 50 B.P.D. on pmp.

Martell Pet. Co. No 2. Clark, J. R. Miller Sur. Drlg. 1,815 ft.

Martell Pet. Co. No. 2 Young, J. R. Miller Sur. T.D. ch. 2,066 ft.; R.U. to pmp.

Perot Oil Corp. No. 2 Brown, J. R. Miller Sur. T.C. 1,920 ft.; set 7-in. csg. 1,920 ft.; T.D. 2,150 ft.

Perot Oil Co. No. 3 Brown, Miller Sur. Drlg. sh. 306 ft.

Second Nation Oil Co. No. 2 White, J. Pinchback Sur. Drlg. sh. 1,677 ft.

Taylor Ref. Co. No. 10-A Branyon, Cooper Sur. Drlg. 604 ft.

Buchanan—Caldwell County

Edwill Oil Co. No. 4 Browne, Chas. M. Cannon Sur. Drlg. ck. 2,256 ft.

G. D. Fairtrace No. 1 McMahon, Pinchback Sur. T.D. L. 2,404 ft.; prep. test.

McAlester Fuel Oil Co. No. 3 Miears, Cannon Sur. Set surf. csg. 20 ft.; T.D. Edw. 2,512 ft.; swbg.

Ralph Ogden No. 1 Dinges, Damon Sur. Set 7-in. csg. 1,861 ft.; T.D. 2,205 ft.; rng. tbg.

Lewis-Patton Co. No. 1 Brown, Cannon Sur. T.D. 2,219 ft.; comp.; 40 B.P.D.

Lewis-Patton & Co. No. 2 Brown, Cannon Sur. Drlg. sd.&sh. 179 ft.

Potter-Snowden No. 5 Medlin, Cannon Sur. T.D. ck. 2,237 ft.; completing.

Potter-Snowden No. 6 Medlin, Cannon Sur. Set csg. 51 ft.; W.O.C.

Burdett Wells—Caldwell County

F. & W. Oil Co. No. 1 Rodenberg, Guadalupe College Sur. Comp.; 105 B.P.D.; T.D. Edw. 2,228 ft.

F. & W. Oil Co. No. 2 Rodenberg, Guadalupe College Sur. Set surf. csg. 45 ft.; W.O.C.

Dale—Caldwell County

Marts & Beavens No. 1 Miears, Swearingen Sur. Drlg. Tav. 1,796 ft.

R. R. Ogden No. 1 Dinges, Swearingen Sur. T.D. Serp. 2,205 ft.; W.O.P.

Dunlap—Caldwell County

Lanning & Coffield No. 1 Rodenberg, Guadalupe College Sur. Drlg. 1,800 ft.

Chas. Schreiner No. 1 Moody Seal Sur. S.D.; T.D. ck. (cor.) 2,150 ft.; T.C. 2,146 ft.

Larremore—Caldwell County

Spokane O. & G. Co. and Okla. O. & G. Co. No. 3 Starkey, C. Crenshaw Sur. T.D. 905 ft.; S.D.

Salt Flat—Caldwell County

Chiquita Oil Co. No. 1 Moses, Hinds Sur. Comp.; 23 B.P.D.; T.C. 3,327 ft.; T.D. 3,372 ft.

Louis Crouch No. 1 Davis, Hinds Sur. Drlg. sh. 807 ft.

E. J. Koeugh No. 1 Tiller, Hinds Sur. T.D. 2,475 ft.; flwg. est. 75 B.P.D. by hds.

Pummel & Brady No. 1 Jackson, S. Morris Sur. S.D. 1,500 ft.

Elimag Oil Co. No. 1 Pope, J. P. Rains Sur. Cg. 2,306 ft.

Geo. Haines No. 1 Davis, Hinds Sur. Drlg. 178 ft.

Benavides—Duval County

Arkansas Fuel Oil Co. No. 8 Rossi, Flores Gr. No. 25. Cg. 4,771 ft.

Benedum & Trees Oil Co. No. 8 Puig. 750-ac. tr., San Andres Gr. Oil sd. 4,794-4,800 ft.; set csg. 4,794 ft.; T.D. 4,802 ft.; flwd. 44 B.P.D. on ¼-in. ck.; went dead; plg. tbg.

Blanchard No. 1 Puig, Blk. 59, Sur. 238. O.W.W.O.; T.D. 5,425 ft.; P.B. 5,409 ft.; reperf. 5,394-98 ft.; swbd. 54 bbls. oil first 8 hrs. on ⅛-in. ck. and few hds. S.W.; went dead.

Bridwell Oil Co. No. 5 Anciro, Santos Flores Gr. No. 25. Set csg. 4,762 ft.; drlg. plugs.

Bridwell Oil Co. No. 6 Anciro, Santos Flores Gr. No. 25. R.U.

Burton Drlg. Co. No. 1 Southland Life, Blk. 12, Sweden Farm Lots. D.S.T. 4,791-4,823 ft.; tstd. mud; rng. csg. to perf.

L. Glasscock No. 1 Flores, sec. 9, Sweden Farm Lots. Comp.; 23 B.P.D. by hds.; T.D. 4,805 ft.

Frank Gravis Oil Co. No. 5-A Puig, 100-ac. tr., San Andres Gr. T.D. 4,810 ft.; tstg. oil sds. 4,756-66 ft. and 4,806-10 ft.

Frank Gravis Oil Co. No. 1 Valleo San Andres Gr. R.U.

Gravis & Doran No. 7 Puig, San Andres Gr., sec. 24. R.U.

Hiawatha O. & G. Co. No. 4 Southland Life, sec. 12, Flores Gr. No. 25. Sd. 4,770-77 ft.; set csg. 4,777 ft.; comp.; gasser; ¼-in. ck.; C.P. 1,025 lbs.; T.P. 975 lbs.

Reynosa Oil Co. No. 6 Wilson, 80-ac. tr., sec. 9. Set csg.; T.D. 4,788 ft.; tstg. oil sd. 4,782-86 ft.; 7-in. csg. 4,780 ft.

Reynosa Oil Co. No. 7 Wilson, sec. 9, Sweden Farm Lots. Drlg. 3,197 ft.

Russ Pet. Co., Inc., No. 9 Farias, sec. 9, Sweden Farm Lots. Sd. 4,796-4,803 ft.; set csg. 4,792 ft.; W.O.C.

Russ Pet. Co. No. 10 Farias, sec. 9, Sweden Farm Lots. Set csg. 516 ft.; W.O.C.

Russ Pet. Co., Inc., No. 2 Rossi, sec. 10, Sweden Farm Lots. T.D. 5,370 ft.; D. S.T.; 160 ft. oil-cut mud; 60 lbs. W.P. 15 min.

Standard Oil Co. of Kans. No. 5 Parr, 80-ac. tr., San Andres Gr. Drlg. 4,257 ft.

Standard Oil Co. of Kansas No. 6 Rossi, Santos Flores Gr. Cg. 4,770 ft.

Standard Oil Co. of Kansas No. 4 Southland Life, sec. 12, Santos Flores Gr. T.D. oil sd. 4,821 ft.; set csg. 4,810 ft.; W.O.C.

Sun Oil Co. No. 1 Barton Est., 1,056.1-ac. tr., Surs. 425, 6 and 24, San Andres Gr. D.&A. 5,671 ft.

Woodley Pet. Co. No. 1 West, Sweden Farm Lot No. 10. Drlg. 4,187 ft.

Charamousca—Duval County

N. V. Duncan No. 16 Worden-Drought, Sur. 151. Drlg. sh. 1,417 ft.

Colmena—Duval County

Conservative Oil Co. No. 3 D.C.R.C., Sur. 47. T.D. 1,488 ft.; prep. P.B.

Driscoll—Duval County

Continental Oil Co. No. 19 Sevier, Sur. 448. Sd. 3,600-18 ft.; set 7-in. csg. 3,614 ft.; set csg. 3,614 ft.; W.O.C.; sd. 3,600-18 ft.

Hoffman—Duval County

Cox & Hamon No. 7 Green, Sur. 118. Comp.; 30 B.P.D.; T.D. 2,725 ft.

Cox & Hamon No. 31 Green, Sur. 118. Drlg. 1,819 ft.

Gulf Stream Oil Co. No. 5-B Hoffman, Sur. 118. Set 7-in. csg. 2,771 ft.; perf. 2,787-91 ft.; tstd. gas.

F. T. Oil Co. No. 1 Sutherland, Sur. 122. Drlg. 1,965 ft.

Kohler—Duval County

Bunn Bros. & Coates No. 2-A Peters, Gibson Sur. 397. Sd. 1,835-45 ft.; set csg.; W.O.C.

Labbe—Duval County

Magnolia Pet. Co. No. 10 Labbe, Sur. 1. Sd. 2,848-52 ft.; completing.

Lundell—Duval County

Govt. Wells Oil Co. No. 10 Lundell, Sur. 140. T.D. sd. 1,522 ft.; completing.

Peters—Duval County

Gier & Kone No. 2 Peters, Sur. 38. Spd.; set surf. csg. 23 ft.; W.O.C.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 8 D.C.R.C., Sur. 203. Set 7-in. csg. 1,994 ft.; T.D. 2,003 ft.; comp.; 240 B.P.D.; ½-in. ck.

Sarnosa—Duval County

Tarver & Putnam No. 2 Ruiz, Sur. 127. Oil sd. 2,548-51 ft. and 2,567-72 ft.; D. &A.; T.D. 2,671 ft.

Seven Sisters—Duval County

Rudco O. & G. Co. No. 1 Ellis, Sur. 308. T.D. 300 ft.; S.D.

Sweden—Duval County

Hiawatha O. & G. Co. No. 3 Miller, sec. 24, Flores Gr. No. 25. T.D. sd. 5,873 ft.; show gas and dist.; prep. test.

Thomas-Lockhart—Duval County

Lockhart Bros. No. 3 Parr, Sur. 277. T.D. 4698 ft.; comp.; 20 B.P.D.; jtg.

Lockhart Bros. No. 1 Rogers, Sur. 277. R.U.

Taylor Pet. Co. No. 1 Parr, 40-ac. tr., Sur. 279. Oil and gas sd. 4,699-4,707 ft.; oil sd. 4,724-25 ft.; set plug 4,642-4,884 ft.; T.D. 5,162 ft.; W.O.C.

Pearsall—Frio County

Amerada Pet. Corp. No. 8 Halff & Oppenheimer, S. A. Ditch Sur 1,104 (W.O.). Set 7-in protective csg. 10,341 ft.; P.B. 5,580 ft.; acdzg.

Amerada-Rycade No. 1 Melms, A.C.H.& B. Sur. No. 1. R.U.

Darst Creek Extn.—Guadalupe County

Kenedy & Crowley No. 1 Anderson, J. R. Robinson Sur. T.D. 2,655 ft.; comp.; 25 B.P.D. on pmp.

Gulf Oil Corp. No. 7 Dix, Robinson Sur. Drlg. 2,225 ft.

D. A. Kramer No. 1 Anderson, Darst Sur. Drlg. 1,507 ft.

Riddle Oil Co. No. 2 Williams, DeWitt Sur. No. 13. Set csg. 2,378 ft.; S.D.

Texas Co. No. 3 Dowdy, Darst Sur. Drlg. 2,173 ft.

Trio Oil Co. No. 3 Wille, J. C. Darst Sur. R.U.

Luling—Guadalupe-Caldwell Counties

Diamond Halff Oil Co. No. 1 McKean, Nancy Reaville Sur. T.D. 2,256 ft.; T.C. 1,820 ft.; P.B. to test ch.

Muckelroy & Schawe No. 1 King, N. Reaville Sur. Set 5½-in. at T.D. 2,097 ft.

Potter P. L. Co. No. 1 Cartwright, J. Henry Sur. T.D. 1,991 ft.; T.C. 1,781 ft.; 5½-in. csg. 1,770 ft.; S.D.; W.O.P.

Spokane O. & G. Co. No. 1 Hibbits, J. Henry Sur. Drlg. sh. 521 ft.

Rio Bravo Oil Co. No. 17-L Merriweather, John Henry Sur. Spd.

Taylor Ref. Co. No. 2 Harris, H. Cottle Sur. Crevice 2,002-06 ft.; P.B. 1,948 ft.

LaBlanca—Hidalgo County

Dee Davenport No. 1 Hidalgo Wtr. & Imp. Dist., Lot 16, Engleman Subd., Smith Sur. 262. Perf. in sd. 7,880-7,914 ft.

Gulf States Oil Co. No. 2-A Delta Orchards, Lot 3, Sur. 94. Drlg. hd. sh. 3,363 ft.

Samfordyce--Hidalgo-Starr Counties

Fohs Oil Co. No. 1 Guerra, 25-ac. tr., Tr. 254, Porc. 40. R.U.

Graham et al No. 2 Villareal, 26-ac. tr., Porc. 38. Drlg. 721 ft.

Alworth—Jim Hogg County

French Oil Corp. No. 6 Garcia, Sur. 269. T.D. 1,063 ft.; flwg. 1 B.P.D.; sds. 1,034-36 ft. and 1,038-49 ft.; tstg.

Las Animas—Jim Hogg County

Darby Pet. Co. No. 1-A Holbien, Blk. 61, sec. 6, Holbien Subd., Las Animas Gr. Cg. 2,692 ft.

West Premont—Jim Wells County

Smith & Story No. 1 Dansard, C Lots 16 and 17, sec. 72. Drlg. 1,705 ft.

Homer Presnall No. 1 Holmes, Lots 59 and 70, sec. 76. T.D. 2,259 ft.; D.S.T. rec. 50 ft. oil 4½ min.; set csg. 2,257 ft.; S.D.; W.O.O.

North Pettus—Karnes County

Magnolia Pet. Co. No. 19 Porter, B.&B. Sur. Oil sd. 3,673-87 ft.; set 7-in. csg. 3,675 ft.; bailing.

South Burnell—Karnes County

Luling O. & G. Co. No. 6 Boyce, Still Sur. No. 8. Oil sd. 3,634½-35½ ft.; set 5½-in. csg. 3,621 ft.; comp.; 192 B.P.D. on ¼-in. ck.; T.D. 3,647 ft.

Luling O. & G. Co. No. 7 Boyce, Samson Still Sur. No. 8. Oil sd. 3,640-44 ft.

Oakville—Live Oak County

Simmons O. & G. Co. No. 3-B Reagan, Romero Sur. Sd. 2,812-26 ft.; set csg. 2,826 ft.; flwd. 180 ft. oil and 180 ft. S.W.

Ezzell—McMullen County

Harry Ezzell No. 5-A fee, sec. 21. Sd. 1,518-27 ft.; set csg. 1,530 ft.; W.O.C.

Harry Ezzell No. 7-A fee, sec. 21. Sd. 1,489-1,500 ft.; set csg. 1,510 ft.; W.O.C.

Harry Ezzell No. 1-C fee, sec. 20. Sd. 1,474-84 ft.; set csg. 1,497 ft.; W.O.C.

Harry Ezzell No. 2-C fee, sec. 20. Sd. 1,459-66 ft.; set csg. 1,493 ft.; W.O.C.

L. Glasscock No. 1 Bonham, Gloreck Sur., Lot 2431. Oil sd. 1,460-70 ft.; set csg.; T.D. 1,471 ft.; W.O.P.

L. Glasscock No. 2 Bonham, Floreck Sur. Skdg. on.

R. P. Holland No. 3 Matkin, Lot 2433. Drlg. 507 ft.

E. M. Jones No. 12 Ezzell, Russell Sur. 23. Comp.; 281.88 B.P.D. on pmp.; T.D. 1,530 ft.

E. M. Jones No. 14 Ezzell, Sur. 23. Comp.; 207 B.P.D.; T.D. 1,540 ft.

E. M. Jones No. 16 Ezzell, Sur. 23. Comp.; 302 B.P.D.; pmpg.; T.D. 1,543 ft.

E. M. Jones No. 17 Ezzell, sec. 23. Comp.; 265 B.P.D.; pmp.; sd. 1,499-1,506 ft.

Sure Oil Co. No. 2 Gayle, Lot 2434. Spd.

South Calliham—McMullen County

Bill Howard No. 9 Claunch, Hely Sur. Drlg. 1,157 ft.

Taylor—Medina County

R. J. Taylor No. 3-A fee, Sur. 135. R.U.

Aqua Dulce—Nueces County

Heep Oil Corp. No. 1 Purl, 440-ac. tr., Subd. No. 2. Comp.; 50 B.P.D. dist. on ½-in. ck.; perf. 6,335-39 ft.; 7-in. csg. at T.D. 6,812 ft.

Texon Roy. Co. No. 3 Driscoll-Sevier, Chapman Part., Palo Alto Gr. Set csg. 1,512 ft.; W.O.C.

Union Prod. Co. No. 1 Simmons, 1,000-ac. tr., Lopez de Juan Sur. Set surf. csg. 1,520 ft.; drlg. 3,217 ft.

Union Prod. Co. No. 1 Schroeder, sec. 87, Paul Subd., Driscoll ranch. Set csg. 8,230 ft.; clg.; comp.; 120 B.P.D. dist. on ⅞-in. ck.; perf. 6,835-45 ft.; T.D. 8,230 ft.

Clara Driscoll—Nueces County

O. W. Killam No. 4 Ellick, sec. 109, T.D. 3,906½ ft.; oil sd. 3,901-06½ ft.; set 7-in. csg. 3,903¼ ft.; comp.; 27 B.P.D. oil and 30 B.P.D. S.W. on 5/32-in. ck.; T.P. 1,250 lbs.

O. W. Killam No. 5 Elick, 86-ac. tr., sec. 109, Pauls Subd. D.S.T. 4,650-54 ft.; rec. 1,000 ft. of 31.6-grav. oil; 55 lbs. W.P. 12 min.; cd. to 4,690 ft.; sd. 4,650-61 ft.; 7-in. csg. 4,690 ft.; W.O.C.

Mid-Continent Pet. Corp. No. 4 Sevier, R. Russell Sur. Oil sd. 3,807-10 ft.; set 7-in. csg. 3,806 ft.; comp.; 48 B.P.D. on ¼-in. ck.

S. Clara Driscoll—Nueces County

Sun Oil Co. No. 1 Flynn, sec. 110, Paul Subd., Driscoll ranch. D.S.T. 3,928-38 ft.; rec. 2,140 ft. fluid incl. 450 ft. P. L.O. and 1,540 ft. oily mud and 120 ft. S.W.; sd. 3,930½-38½ ft.; perf. 3,930-33 ft.; reworking.

Flour Bluff—Nueces County

Humble O. & R. Co. et al No. 2 Collier. Set csg. 6,652 ft.; D.S. tstg.
Humble O. & R. Co. et al No. 2 Dunn, Lot 8, Blk. 41. Cg. 6,694 ft.
Humble O. & R. Co. No. 7 Gulden, Lot 23, Blk. 47. Drlg. sh. 4,975 ft.
Humble O. & R. Co. et al No. 1 Smith, Lot 9, Blk. 49. T.D. 6,660 ft.; rng. scrn. and lnr.
Humble O. & R. Co. et al No. 8 Webb, Lot 9, Blk. 56. T.D. 6,655 ft.; comp.; 150.24 B.P.D. on ½-in. ck.
Humble O. & R. Co. No. 9 Webb, Lot 8, Blk. 56. Drlg. sh. 3,069 ft.

London—Nueces County

Wellington Oil Co. and Seaboard Oil Corp. No. 1-B Lehman, NW¼, SE¼, sec. 25. D.&A.; T.D. 5,007 ft.

Luby—Nueces County

Seaboard Oil Corp. No. 4 Luby, Blk. 4, Sh. 2, Luby Subd. Oil sd. 5,030-57 ft.; set csg. and perf. 5,052-55 ft.; T.D. 5,063 ft.; oil sd.; D.S.T. 5,043-63 ft.; rec. 300 ft. oil; no wtr.; 15 min.; 400 lbs.
Seaboard Oil Corp. No. 6 Luby, Blk. 2, Sh. 4, Luby Subd. Drlg. 2,597 ft.
Stanolind O. & G. Co. No. 3 McCann, 500-ac. tr. D.S.T. 4,331-47 ft.; rec. 550 ft. oil; W.P. 190 lbs. 10 min.; sd. 4,336-47 ft.; T.D. 5,099 ft.; comp.; 124 B.P.D. on ½-in. ck.; perf. 4,340-50 ft.

Saxet Heights—Nueces County

Wm. Brady No. 2 Whalen, Villareal Sur. Oil sd. 4,043-56 ft.; set 5½-in. csg. 4,065 ft.; T.D. 4,066 ft.; comp.; 136 B.P.D., 50% S.W.; ¼-in. ck.; jtg.
Crown Central Pet. Corp. No. 6 Page, 75-ac. tr., Page Lds. Sur. Drlg. 2,879 ft.
J. E. Freeman No. 1 Kovner, Sur. 416. S.D.; repairs; T.D. 3,303 ft.
J. E. Freeman No. 1 Scott, Sur. 416. Comp.; 24 B.P.D. dist.; ¼-in. ck.; perf. 5,755-59 ft.; T.D. 5,855 ft.
Greta Oil Corp. No. 1 Isensee, Sur. 404. T.D. 4,910 ft.; perf. 4,893-4,903 ft.; tstg.
Greta Oil Corp. and Morgan No. 8 Morgan-Clark, Sur. 405. Set csg. 1,100 ft.; S.D.
Hiawatha O. & G. Co. No. 14 Hutchins-Stillwell Sur. 500. Drlg. 4,796 ft.
Houston Oil Co. No. 5-A Harrell, Sheppard Farm Lots. Set csg. 4,847 ft.; W.O.C.; T.D. 6,999 ft.
Houston Oil Co. No. 9-A Harrell, Lot 24, Sheppard Farm Lots. Oil sd. 4,530-36 ft.; comp.; 129 B.P.D. on ⅝-in. ck.; jtg.
Houston Oil Co. No. 5 Hunter, 75-ac. tr., sec. 8, Rge. 7. Drlg. sh. 3,097 ft.
Houston Oil Co. No. 29 Morgan, sec. 7, Rge. 6. Set csg. 4,857 ft.; W.O.C.
Houston Oil Co. No. 33 Morgan, sec. 7, Rge. 6. R.U.
H. H. Howell No. 7 Hutchins, 80-ac. tr., Sur. 416. Drlg. 3,976 ft.
H. H. Howell No. 8 Hutchins, 80-ac. tr., Sur. 416. T.D. 6,964 ft.; P.B. T.D. 6,779 ft.; perf. 6,248-52 ft.; comp.; 5 B.P.H. on 5/32-in. ck.
J. K. Kepley No. 8 Donigan, sec. 7, Rge. 6. Oil sd. 4,425-28 ft.; 7-in. csg. 4,465 ft.; perf. 4,072-64 ft.; comp.; no ga.
Maryland Corp. and Renwar Oil Co. No. 2-B Morgan, Sur. 415. Cg. sh. 6,729 ft.
North Star Oil Co. No. 12-E Morgan, sec. 405. Sd. 6,700-53 ft.; set csg.; T.D. 6,946 ft.; P.B. 6,700 ft.; W.O.C.
Pan American Prod. Co. No. 2-B Sagarin, Sur. 500. O.W.W.O.; old T.D. 5,827 ft.; perf. 6,896-6,901 ft.; squeeze perf.; W.O.C.
Pan American Prod. Co. No. 5 Solar Sevier, Sur. 311. T.D. 7,001 ft.; D.&A.
Richardson Pet. Co. No. 3 Harrell, Blk. 33, Sheppard Farm Lots. Set csg. 6,996 ft.; perf. 6,970-74 ft.; swb. dry; S.D.; W.O.O.
Richardson Pet. Co. No. 7 Perkins-Lagasse, Blk. 25, Sheppard Farm Lots. Cg. 6,023 ft.
Richardson Pet. Co. No. 13 Quiros, Sur. 311. Sd. 6,905-60 ft.; sqz. perf. 6,907-12 ft.; tstd. wtr.; W.O.C.
Richardson Pet. Co. No. 11 Sedwick, 184-ac. tr., Dunn Sur. 312. Drlg. 7,069 ft.
Southern Minerals Corp. No. 9 Ocker, 205-ac. tr. Set 7-in. csg. 4,863 ft.; sd. 4,862-71 ft.; tstg.
Texon Drlg. Co. No. 5 Vance, Gallagher Sur. O.W.W.O.; old T.D. 6,924 ft.; cg. 8,198 ft.

Sullivan—Nueces County

Lockhart et al No. 1 O. Puri, Lot 2, sec. 7, Ross Peters Subd. No. 2. Sd. 7,032-52 ft.; P.B. and sdtrkd.; T.D. 7,404 ft.; comp.; no ga.

Midway—San Patricio County

Sun Oil Co. No. 2 Coggin, sec. 82. Oil sd. 5,333-35 ft.; set csg.; W.O.C.; T.D. 5,338 ft.

Plymouth—San Patricio County

Heep Oil Corp. No. 8-F Welder, sec. 46. P.B. and set csg. 6,015 ft.; perf. 5,919-23 ft.; T.D. 7,253 ft.
Magnolia Pet. Co. No. 13 Corpus Christi Bank & Trust, H. H. Hunter Sur. Set surf. csg. 464 ft.; W.O.C.
Plymouth Oil Co. No. 84-C Welder, sec 70. Oil sd. 5,512-15 ft.; set 7⅝-in. csg. 5,528 ft.; W.O.C.
Plymouth Oil Co. No. 85-C Welder, sec. 70. Oil sd. 5,467-77 ft.; perf. 5,472-77 ft.; tstg.
Sun Oil Co. No. 3 Roundtree, sec. 34, Lot 4. Perf. 5,636-37 ft.; pmpd. 30 bbls. oil, 50 bbls. S.W.; sanded up; reworking.

Taft Field—San Patricio County

Greta Oil Corp. No. 1 Pullin, Blk. 1, Lot 4. Perf. 4,361-64 ft.; T.D. 4,376 ft.; comp.; 80 B.P.D.; ⅛-in. ck.; perf. 4,351-61 ft.
Humble O. & R. Co. No. 3 Godwin, 90-ac. tr., Lot 1, sec. 23. Comp.; 72 B.P.D. on ¼-in. ck.; T.D. 4,366 ft.
Humble O. & R. Co. No. 4 Flinn, R. Ross Sur. Set csg. 3,985 ft.; W.O.C.

Barbacoas—Starr County

E. E. Merren No. 1-A S.C.C.C., Blk. 34, Lambeth Subd., Porc. 89. Set csg. at T.D. 5,640 ft.; sd. 5,470-91 ft.; C.O.; perf. 5,390-5,417 ft. and 5,417-24 ft.; flwg. dist. and S.W.; C.I.C.P. 1,800 lbs stdg.

Ricaby—Starr County

Conan Wood No. 1 Wardner Est., Porc. 84. T.D. 523 ft.; gas sds. 425-39 ft. and 441-61 ft.; S.W. sd. 498-503 ft.; blew out making 500,000 ft. gas and S.W.; S.I.; comp.; 500,000 ft. gas; gas sds. 399-404 ft. and 406-21 ft.
Conan Wood No. 2 Wardner Est., Porc. 84. Spd. in.; perf. 448-59 ft. in 5½-in. csg. at 518 ft.; comp.; 250,000 ft. gas.
Conan Wood No. 3 Wardner Est., Porc. 84. S.D. 235 ft.
Dean Bros. No. 1 Valadez, Porc. 84. Sd. 1,863-72 ft.; set 5½-in. csg. 1,872 ft.; T.D. 1,873 ft.; perf. 1,868-72 ft.; 1,200 ft. fluid mostly oil in hole; to put on pmp.
Sun Oil Co. No. 5 Wardner, Vela Sur., Porc. 84. Sd. 1,633-41.5 ft.; D.S.T. 1,624-41.5 ft.; rec. 120 ft. S.W. and mud.

Carolina-Texas—Webb County

E. J. Puri et al No. 2 Garza, Sur. 48. Sd. 2,100-07 ft.; T.D. 2,119 ft.; comp.; 5,000,000 ft. gas.

Cole—Webb County

French Oil Corp. No. 3 Perez, Sur. 1007. Oil sd. 1,987½-93½ ft.; set csg. 1,987 ft.; comp.; 105 B.P.D.; jtg.; T.D. 1,993½ ft.
French Oil Corp. No. 4 Perez, Sur. 1,107 ft.; cg. 1,977 ft.
O. W. Killam No. 58 Bruni, sec. 8, Blk. 12. Oil sd. 2,592-94 ft. and 3,413-14 ft.; set 5½-in. csg. 3,398 ft.; comp.; 100 B.P.D. on ⅝-in. ck.
O. W. Killam No. 59 Bruni, sec. 8, Foltz Subd., Arispe Gr. Set 5½-in. csg. 3,401 ft.; T.D. 3,413 ft.
Magnolia Pet. Co. No. 3 Valdez, Valdez Sur., Blk. 8. T.D. 3,808 ft.; rng. S.J.

Killam—Webb County

O. W. Killam No. 4 Garcia, Sur. 786. T.D. 2,006 ft.; comp.; 100 B.P.D.
O. W. Killam No. 19 Garcia, Sur. 786. R.U.
O. W. Killam No. 20 Garcia, Sur. 786. Comp.; 107 B.P.D.; ⅝-in. ck.; T.D. 1,987 ft.
Rowan & Hope No. 3 Laurel Bros., Sur. 1006. T.D. 1,943 ft.; 7-in. csg. 1,934 ft.; W.O. pmp.

Lopez—Webb-Duval Counties

C. H. Andrus No. 1 Billings, Sur. 10. Set 5½-in. csg. 2,262 ft.; perf. csg.; tstg.

O'Hern—Webb County

J. Gier and Kone Prod. Co. No. 2 Peters, SW¼, Sur. 38. R.U.

Oilton—Webb County

Bridwell Oil Co. No. 7 Martin, Sur. 2167. Comp.; 150 B.P.D.; oil sds. 1,903-06½ ft. and 1,925-32 ft.; pmpg.
Bridwell Oil Co. No. 8 Martin, Sur. 2167. Cg. 1,879 ft.
Bridwell Oil Co. No. 2-A Martin, Sur. 2167. Drlg. 1,856 ft.
Gypsy Oil Co. No. 2-A Martin, Sur. 2167. Oil sd. 1,898-1,900 ft. and 1,914-23 ft.; comp.; 160 B.P.D.; 5½-in. csg. 1,914 ft.
Gypsy Oil Co. No. 3-A Martin, Sur. 2167. Oil sd. 1,883-1,914 ft.; tstg.
Gypsy Oil Co. No. 4-A Martin, Sur. 2167. R.U.
Hamil & Smith No. 20 Martin, sec. 2167 Set csg. on sd.; W.O.C.
Magnolia Pet. Co. No. 2 Sprague-fee, Sur. 2161. Drlg. 520 ft.
Mills Bennett Prod. Co. No. 2 Martin, Sur. 2167. Cg. 1,936 ft.
Morgan & Kirkwood No. 2 Juarez, Blk. 23, Sur. 1105. Comp.; 160 B.P.D.; T.D. 1,960 ft.
Rowan & Hope No. 5 Laurel, Sur. 1006. Oil sd. 1,920-24 ft. and 1,941½-46 ft.; set 7-in. csg. 1,941 ft.; comp.; 125 B.P.D.; T.D. 1,946 ft.
Rowan & Hope No. 6 Laurel Bros., Sur. 1006. Set csg. 1,945 ft.; W.O.C.

LaSal Viola—Willacy County

Shell Pet. Corp. No. 2 Yturria, Sh. 64, Carricitos Gr. Cg. sh. 7,446 ft.

Escobas—Zapata County

Dulup Oil Co. No. 28 Trevino, 326-ac. tr., Sh. 25. Comp.; 10 B.P.D. on pmp.; 5½-in. csg. at 1,234 ft.; O.&G. sd. 1,232-50 ft.
Dulup Oil Co. No. 29 Trevino, Sur. 412, Blk. 25. Cg. 813 ft.
Texas Co. No. 109 Jennings, Cerrito Blanco Gr. Set csg. 1,240 ft.; comp.; 30 B.P.D.; T.D. 1,245 ft.
Texas Co. No. 110 Jennings, Cerrito Blanco Gr. Drlg. sdy. sh. 759 ft.

Lopeno—Zapata County

Wm. Winn No. 1 Ramirez, Sh. 2, Jamieson Subd., Porc. 19. Set surf. csg. 120 ft.; W.O.C.

Batesville—Zavalla County

Wilcox O. & G. Co. No. 2 Gilliam, G.W.T. &P. R.R. Sur. Drk.

NORTH TEXAS WILDCATS

Archer County

Hamon, Hanlon-Buchanan, Inc., et al No. 1 W. P. Ferguson, sec. 2, H.&G.N. Sur. S.D.O. 3,986 ft.

Baylor County

Hampton et al No. 1 A. G. Cochrell, sec. 2,404, T.E.&L. Sur. S.D.O. 1,385 ft.

Clay County

W. Gant No. 5 C. M. Worsham, D.L.&C.A. Sur. 1073. Tstg. est. 50 bbls.
Healdton O. & G. Co. No. 1 Wallace, Belcher Subd. Drlg. 1,002 ft.

Cooke County

W. O. Russell No. 1 J. W. Sherrill, Wm. Phelps Sur. A-821. Drlg. 1,500 ft.

Denton County

W. C. Curry et al No. 1 G. F. Owens, N. Rudder Sur. A-1060. S.D.O. 620 ft.
Bruce Lee No. 1 Boyles, S. Ross Sur. A-112. S.D.O. 1,733 ft.
Scroggins et al No. 1 S. M. Freeman, Bradshaw Sur. A-104. S.D.O. 2,185 ft.
Wells-Dodson-Pearson No. 1 Hughes, B.B.B.&C. Sur. A-1252. Drlg. 2,134 ft.

Foard County

Texas Co. No. 14 Johnson, sec. 37, S.P. R.R. Sur., Blk. L. Drlg. 203 ft.

Grayson County

Denver P. & R. No. 1 Cannon, A. Berry Sur. A-130. Will Lane perf. pipe and test upper sd.
Pearson Tubing Co. No. 1 J. H. Thompson, W. A. Warner Sur. A-1350. R.U.I.

Montague County

J. W. Sorrell et al No. 1 J. E. Walthall, Sam H. Smith Sur. A-662. O.W.D.D. 2,100 ft.

Wichita County

Grace & Woods No. 1 W. L. Hodges, H. B. Balch Sur. A-26. Drlg. 3,700 ft.
Hammon Hanlon Buchanan, Inc., No. 1 A. F. Fassett, sec. 1, E.T.R.R. Sur. 6⅝-in. cmtd. 3,940 ft.; W.O.C.
Jack E. Kadane No. 1 C. A. Mangold, P. Castleman 35-A. 6⅝-in. cmtd. 3,650 ft.; W.O.C.
King Oil Co. No. 1 T. F. Mitchell, P. Castleman Sur. A-36. Drlg. 2,400 ft.
Lebus et al No. 1 G. W. Lewis, Blk. 20, K.W.V.L. Sur. 6⅝-in. 3,726 ft.; tstg. show L. 3,720-49 ft.; est. 500 bbls.
LeBus No. 1 J. F. Miller, W. R. Eaves Sur. A-447. Set 6⅝-in. 3,610 ft.; drlg. S.L. 3,839 ft.
W. B. Omohundro No. 1 First Natl. Co. sec. 28, W.V.F.L. Sur. Drlg. plug. 3,773 ft.
Patterson et al No. 1 B. C. Ellis, J. Waldschmidt Sur. A-792. S.D.O. 930 ft.
Felix Payne No. 1 P. R. Pace, R. J. Scott Sur. A-253. Spud. & S.D.
E. J. Stump No. 1 M. P. Bishop, L. Netherlev Sur. A-240. Drlg. 575 ft.
E. J. Stump et al No. 1 J. and J. Waggoner, W. R. Eaves Sur. A-753. Fsg. bit; 3,000 ft. oil in hole.
Clyde Texan Oil Fields Co. No. 1 A. W. Burnside, John M. Sharp Sur. A-262. Shot. S.L. 3,935-51 ft.; C.O. bridge; est. 250 bbls.

Wilbarger County

Barry & Hayes No. 1 McGill, sec. 3, Blk. 9, H.&T.C. Sur. S.D. 3,030 ft.
W. Little No. 1 A. P. Morris, sec. 3, H.T. &C. Sur., Blk. 14. S.D. 700 ft.
W. W. Woolsey et al No. 1 Waggoner A, sec. 3, S.P.R.R. Sur. A-535. Drlg. 500 ft.

Wise County

W. D. Dilbeck No. 1 J. I. Wilkins, E. Stephens Sur. S.D. 600 ft.
Latex Oil Co. No. 1 C. R. Smith, J. Couch Sur. A-104. C.O. bridge; tstg.

Young County

C. B. Christie No. 1 S. Dozier, I. L. Hill Sur. A-126. Drlg. 2,500 ft.
Hickok & Reynolds No. 1 J. J. Martin, C. W. Townsend Sur. A-1642. G.L. 3,435-54 ft.; est. 100 bbls.; treating acid.
L. A. Long No. 1 F. A. Burnett, E.G. Rector Sur. No. A-239. W.O.C.
Lupton & Long No. 1 W. I. Gilmore, J. Gilmore Sur. A-2135. H.F.W. 4,105 ft.; S.D.O.
W-K Royalty Co. No. 1 J. A. Wright, J. N. Taylor Sur. A-1243. Drlg. 3,800 ft.

E. C. TEXAS WILDCATS

Anderson County

Humble O. & R. Co. No. 1-C Southern Pine Lbr. Co. Drlg. 6,915 ft.

Angelina County

J. C. Bonham No. 1 Cameron Lbr. Co., 1,800 ft. E of NE cor. of J. E. Peavy Sur. and 1,233 ft. from NW of E. Miller Sur., 3 mi. SE of Zavalla. Loc.
John Coates No. 1 J. L. Russell, Jose Morino Sur., E of Diboll. Drk.
J. G. Mayo No. 1 Holmes Bros., 330 ft. from most northerly NE cor. of 108-ac. tr., S. F. Noble Sur. Drlg. 828 ft.

Cherokee County

Merica Oil Co. No. 1 Cherokee Dev. Co., A. J. Acker Sur., 2 mi. E of Maydelle. Drk.
E. H. Moore, Inc., No. 1 Chronister Lbr. Co., 6 mi. N and E of Wells, Tr. 71, Blk. 33, John Durst Gr. Drlg. 5,100 ft.

Falls County

McCleod et al No. 1 F. Bolton, J. R. Cockrill Sur., 4 mi. NW Rosebud. Top Austin 704 ft.; Georgeton 1,402 ft.; S.D. 1,415 ft.

Freestone County

C. E. Rossiter No. 1 J. P. Fulton in J. P. Fulton Sur., 2½ mi. E of Donie. S.D. 956 ft.

Gregg County

Humble O. & R. Co. & Gulf O. Corp. No. 1 E. Robertson, M. Mann Sur., 2½ mi. SW of Longview Trinity test. El. 272 ft.; Glen Rose 4,876 ft.; reaming 6,564 ft.

Henderson County

S. Hunt et al No. 1 Dillard, H. Jeffries Sur., 16 mi. N of Trinidad. El. 361 ft.; Paluxy 4,689 ft.; drlg. 6,111 ft.
E. B. LaRue et al No. 1 Breedlove & Mills, J. Dunn Sur., 5 mi. NW of LaRue. M.I.M.
Wm. McDougall No. 1 Trinity, F. & S. Land Co., Blk. 1, H.&T.C. Sur. Drk.
Tide Water Assoc. et al No. 2-C McElreath & Suggett, W. P. Wyche Sur. T.D. 9,320 ft.; P.B. to 9,255 ft.; est. 15,000,000 ft. gas; ran csg.

Hopkins County

Abbot & Rutland No. 1 Peyton, 2,125 ft. from E and 1,630 ft. from W and 254 ft. N of tr., J. Burkham Sur., 2 mi. N of Sulphur Bluff. W.O.C. 109 ft.

Hill County

J. Willis No. 1 W. P. Ball, S. Marshall Sur., 3 mi. NW of Covington. M.I.M.

Leon County

Kelly & Fox No. 1 Bryant, A. M. Coulter Sur., 1 mi. E of Marquez. S.D.

Limestone County

C. L. Brown No. 27 N. B. Boyd, R. B. Longbotham Sur., 3 mi. S of Wortham. T.D. 1,107 ft.; set csg.
Pure Oil Co. No. 16-T Kendrick, P. Varella Sur., Mexia field. Drlg. 8,725 ft.
Stanolind O. & G. Co. No. 1 T. Norris, in Thresher Sur., 5 mi. N of Kosse: 6,500-ft. test; El. 528 ft.; coring 5,380 ft.

Navarro County

Nowlin et al No. 1 Easterling, J. Mayor Sur., 2 mi. S of Chatfield. R.U.
Mrs. Jane Robinson No. 1 Fortson Bros., Eli Smith Sur., 5 mi. NE Corsicana. S.D. 900 ft.
T. Sharpe et al No. 1 E. B. McDowell, T Jordan Sur., 1½ mi. S of Bassets. Austin chalk 2,835-2,935 ft.; coring 2,970 ft.

Rusk County

J. W. Shipman et al No. 1 Citizens Bank, J. J. Y'Barbo Sur., 4 mi. NE of Henderson. S.D. 4,500 ft.

EAST TEXAS

(Border Counties)

Cass County

American Liberty Oil Co. No. 5 Maxie, John Collom Sur. 5-in. 5,887 ft.; T.D. 5,905 ft.; tstg.
Ark. La. Gas Co. No. 1 Neilon, Thomas Gillespie Sur. Drlg. 5,286 ft.
Bay Oil Corp. No. 4 Cobb, G. Crowder Sur. R.U.
W. C. Feazel No. 1 Parker, G. Crowder Sur. 10-in. 1,950 ft.
R. W. Norton No. 3 W. E. Starke, 13⅜-in. 250 ft.; 6-in. 5,960 ft.; T.D. 6,025 ft.
R. W. Norton No. 4 W. and E. Starke, D. Gillam Sur. T.D. 6,028 ft.; wt. on ga.
Union Prod. Co. No. 1 fee 575, H. Holbert Sur. Comp.; pmp. 58 B.P.D.; T.D. 6,070 ft.
Union Prod. Co. No. 5 fee 575, B. Holmes Sur. Drlg. 1,090 ft.
Union Prod. Co. No. 4 J. S. Hall, J. N. Jackson Sur. Drlg. 4,628 ft.
Union Prod. Co. No. 2 Thrower. T.D. 6,049 ft.; tstg.
United Prod. Co. No. 4 Belote, H. Holbert Sur. 7-in. csg. 5,963 ft.; tstg.

Marion County—Rodessa

Arkansas-Louisiana Gas Co. No. 2 Emma Ford, A. D. S. Coy Sur. Comp.; flw. 400 B.P.D.; T.D. 6,156 ft.
Ark.-La. Gas Co. No. 1 Wade Houston, A. D. S. Coy Sur. Comp.; flw. 520 B.P.D.; T.D. 6,128 ft.
Geo. Barham No. 1 Whitfield, R. Bennington Sur. Drlg. 5,910 ft.
Fohs Oil Co. No. 3 Mary McReynolds, A. D. S. Coy Sur. Drlg. 5,926 ft.
Fohs Oil Co. No. 1 W. T. Neilon, R. Bennington Sur. Loc. moved to SE cor. 70-ac. Neilon Sur. Drlg. 3,750 ft.
Fohs Oil Co. No. 2 M. Reynolds, A. D. S Coy Sur. P.B. to 6,014 ft.; tstg. gas.
Gulf Prod. Co. No. 2 L. Henderson, R. Bennington Sur. T.D. 6,061 ft.; tstg.
Heyser-Heard & Clardy No. 1 L. Henderson, R. Bennington Sur. Drlg. 4,468 ft.
Holcomb & Thomason No. 1-B L. Henderson, U. Ewing Sur. Drlg. 3,139 ft.
Holcomb & Thomasson No. 1 Gray-Taylor, A. D. S. Coy Sur. Comp.; flw. 40 B.P.H.; T.D. 6,094 ft.
Mid-Continent Pet. Corp. No. 4 Sory, A. D. S. Coy Sur. T.D. 6,082 ft.; tstg.
Shell Pet. Corp. No. 1 Cooke, R. Bennington Sur., 80-ac. tr. R.U.
Shell Pet. Corp. No. 1 L. Henderson Unit, R. Bennington Sur. R.U.
Union Prod. Co. No. 5 Hutchinson, A. D. S. Coy Sur. T.D. 5,298 ft.; fsg. for rk. bit.
Union Prod. Co. No. 3-A Starke, D. Gilliam Sur. R.U.
United Prod. Co. No. 3 Hutchinson, A. D. S. Coy Sur. T.D. 6,091 ft.; rmg.
United Prod. Co. No. 4 Hutchinson, A. D.

S. Coy Sur. 7-in. 6,048 ft.; T.D. 6,145 ft.; W.O.C.S.

Panola County

Danciger O. & G. Co. No. 1 Tatum, A. Bissell Sur. T.D. 6,514 ft.; arg. test.
Magnolia Pet. Co. No. 2 E. A. Hull, Thos Applewhite Sur. T.D. 8,717 ft.; fsg. for D.P.

WEST TEXAS WILDCATS

Andrews County

M. S. Forgeron et al No. 1 Lockhart & Brown, C NE¼ sec. 20, Blk. A-41, P.S.L. Sur. S.D. 179 ft.
Gulf Oil Corp. No. 1 State, sec. 8, Blk. 14 Drlg. 3,480 ft.

Bailey County

Duffey & Etz No. 1 Enochs, Tract 66, League 182, Floyd Co. School Land. Sur. Drlg. 2,037 ft.
J. O. Whittington No. 1 McKelvey, El. 3,942 ft.; coring 4,400 ft.

Bordon County

Continental Oil Co. No. 1-A Clayton, 440 ft. N and W, sec. 27, Blk. 32, 4n, T.& P. Sur. Loc.

Brewster County

F. C. Dodson No. 1 Texas American Sync sec. 66, Blk. 10, G.H.&S.A. Sur. Straight-reaming 6,018 ft.
Storey No. 1 Wilson, sec. 3, Blk. 212, T.& St.L. Sur. S.D. 2,545 ft.

Cochran County

P. N. Wiggins et al No. 1 Dean, NE cor. League 58, Martin Co. School Lands. T.D. 4,800 ft.; drlg. plug.
Pete Wiggins et al No. 1 C. Slaughter Dean, C Lab. 26, League 92, Lipscomb Co. Sch. Ld. T.D. 5,030 ft.; shot; C.O.

Concho County

Sam Murray No. 1 R. G. Armor, sec. 105, T.&N.O. Sur. Spudded and S.D.

Coke County

Barnett Pet. Co. No. 1 J. R. Mims, sec. 39, Blk. W, T.&P. Sur. S.D. 1,005 ft.
H. E. Ogden et al No. 1 Rawlins, sec. 390, Blk. B-21. S.D. 515 ft.

Crane County

Wilcox O. & G. Co. No. 1 McKnight, sec. 9, Blk. 46, Twp. 3s, G.M.M.B.&A. Sur. T.D. 6,177 ft.; pipe stuck.

Crockett County

Moore Bros. No. 1 P. Perner, sec. 37, Blk. 2, I.&G.N. Sur. Drlg. 7,200 ft.
Stewart & Cormas No. 1 Hoover, sec. 1, Blk. FF, B.B. Sur. Drlg. 1,122 ft.

Culberson County

C. A. Jarrell et al No. 1 C. M. Caldwell, C of SW¼ sec. 15, Blk. 100, P.S.L. Sur. S.D. 1,514 ft.

Dawson County

R. Albaugh No. 1 D. Hogg, SE of SE sec 17, Blk. 34, Twp. 4n, T.&P. Sur. S.D. 3,865 ft.
E. L. Wilson No. 1 Scanlon, Sec. 83, Blk M, E.L.R.R. Sur. S.D. 4,965 ft.; P.B. to 4,933 ft.; S.D.

Dickens County

C. E. Litchfield No. 1 Harris, sec. 354, Blk. 1, H.&G.N. Sur. S.D. 1,602 ft.
J. F. Morrisey et al No. 1 C. L. Bird, sec. 290, Blk. 1, H.&G.N. Sur. S.D. 1,100 ft.

Edwards County

A. P. Carter No. 1 F. D. Sweeten, S&E sec. 48, Blk. 2, B&B Sur., 1½ mi. E of Rock Springs. Fsg. 5,096 ft.

Fisher County

I. J. Allen No. 1 H. S. Newman, Lot 49, Bastrop Co. Sch. Lds. Drlg. 2,551 ft.
Bond Oil Corp. No. 1 N. Bertram, 1 mi. S of Sylvester. T.D. 1,720 ft.; U.R. csg.
Consolidated Oil Co. et al No. 1 Florida. T.D. 3,155 ft.; ran csg.
General Crude Oil Co. No. 1 Morrow, sec. 185, Blk. 2, H.&T.C. Sur. Drlg. 1,718 ft.
Richmond Drlg. Co. No. 1 Brown, O.T.D. 3,002 ft., R.U.C.T., 660 ft. from N and E, sec. 66, Blk. 3, G.W.T.&P. Sur. Loc.

Gaines County

Amerada Pet. Corp. No. 1 Matthews, sec. 417, Blk. G, C.C.S.D.&R.G.N.G. Sur. T.D. 5,018 ft.; P.B. to 4,997 ft.; shut in.
A. G. Carter et al No. 1 Giesecke, NW cor. Labour 1, League 296, Reagon Co. School Lds. Loc.
Continental Oil Co. No. 2 Jones, sec. 1, Blk. A-8, P.S.L. Sur. Drlg. 4,267 ft.
R. H. Gill No. 1 S. R. Simpson, sec. 8, Blk. C-44, P.S.L. Sur. Drlg. 5,507 ft.
Mitchell & Sullivan No. 1 Shell, T. S. Riley, 660 ft. from N and E, sec. 447, Blk. G, C.C.S.D.&R.G.N.G. Sur. Loc.
Shell Pet. Corp. No. 1 Robertson, sec. 344, Blk. G. Drlg. 2,232 ft.

Garza County

M. L. Richards No. 1 Slaughter. T.D. 780 ft.; set pipe.

Hockley County

The Texas Co. No. 2 Slaughter, Labour 92, League 37, Zavalla Co. Sch. Lds. Drlg. 825 ft.

Howard County

W. F. McDermott et al No. 1 Lucas, sec 18, Blk. 29, Twp. 1n, T.&P. Sur., 5 mi. N of Dodge pool. Drlg. 1,727 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp 6. T.D. 3,250 ft.; U.R. csg.
Haymon Krupp No. 1 Briggs, sec. 24, Blk. 73, Twp. 7. T.&P. Sur. Drlg. 1,020 ft.

Jeff Davis County

H. D. Wilcox et al No. 1 Jones-Coffield. S.D. 3,315 ft.; straightening hole.

Loving County

Barnett Pet. Co. No. 1-A Johnson, sec. 2, Blk. 57, Twp. 1, T.&P. Sur. Drlg. 2,220 ft.
Barnett Pet. Corp. No. 1-B W. D. Johnson, sec. 12, Blk. 56, Twp. 1, T.&P. Sur. T.D. 3,174 ft.; P.B. to 3,131 ft.; bailing.
Carpenter & Grierson No. 1 Mrs. Bennie Barnes, sec. 22, Blk. C-25, P.S.L. Sur. Loc.

Martin County

J. L. Green et al No. 1 O. B. Holt, C of Labour 20, Lge. 319, Garza Co. Sch. Lds. Drlg. 2,230 ft.

Pecos County

Adams No. 1 A. A. Gray, sec. 593, Blk. 105, G.C.&S.F. Sur., 12 miles N of Fort Stockton. Loc.
Messenger & Osburn No. 1 Humble-Young, sec. 49, Blk. 10, H.&G.N. Sur. T.D. 1,807 ft.; pulling pipe.
S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. by drill stem 5,444 ft.
Thompson & Minshall No. 1 Michaelson, 660 ft. N and W, sec. 24, Blk. 146, T.& St.L. Sur. R.U.M.
Trans-Pecos Oil Co. No. 1 Popham. T.D. 535 ft.; lost hole; skd. 25 ft. south; S.D. 1,120 ft.
W. K. Tuller No. 2 Perry. S.D. 1,934 ft.; est. 20 bbls. day.
Wilcox O. & G. Co. No. 1 Serf, sec. 27, Blk. 130, T.&St.L. Sur. Loc.

Presidio County

C. Brite No. 4 fee, C NW¼ sec. 113, Blk. 12, G.H.&S.A. Sur. Drlg. 3,417 ft.

Reagan County

E. E. Sherman No. 1 W. E. Friend, SW Wm. Allen Sur. S.D. 2,405 ft.
Moore Bros. No. 1 University, sec. 8, Blk. 7. T.D. 2,995 ft.; U.R. csg.

Reeves County

Barnett Pet. Corp. No. 1 Ely, sec. 38, Blk. 71, P.S.L. Sur., 12 mi. NW of Toyah. S.D. 1,530 ft.

Runnels County

Homer Price No. 1 Beddo, sec. 51, Thompson Casey Sur. T.D. 1,850 ft.; ran csg.
K Z Oil Co No. 1 B. Fletcher, E. C. Good Sur. Drlg. 3,911 ft.
Stephenson & Glober No. 1 Fowler, sec 150, E.T.R.R. Sur., 2 mi. NE of Ballinger. T.D. 1,095 ft.; S.D.

Schleicher County

J. M. Cooper No. 2 B. Page, sec. 40, Blk. 1 G.H.&S.A. Sur. T.D. 4,710 ft.; lowering casing.
Texas Tor Oil Corp. No. 1 Judkins & Spencer, C of SW¼ sec. 33, Blk. A, A.&B. Sur. T.D. 3,755 ft.; U.R. csg.

Scurry County

Robinson Drlg. Co. No. 1 Martin, sec. 147, H.&T.C. Sur. Drlg. 2,543 ft.
T. G. Shaw Oil Co. No. 1 First Natl. Bank, Drlg. 2,412 ft.

Sterling County

Wilcox O. & G. Co. No. 1 Kinnebrew Est., sec. 101, Blk. 2, H.&T.C. Sur. Drlg. 2,700 ft.
Snowden & McSweeney No. 1 Harris, sec 110, Blk. 6, H.&T.C. Sur., 20 mi. SE of Sterling City. T.D. 1,626 ft.; C.O.

Sutton County

Ordovician Oil Co. No. 1 Evans, sec. 1, L. Stubblefield Sur., 32 mi. SE of Sonora. T.D. 3,355 ft.; ran csg.

Terrell County

D. & S. Oil Co. No. 1 Sam Bell. S.D. 345 ft.

Tom Green County

Humble O. & R. Co. No. 1 Lewis & Wardlaw, sec. 5, Blk. 17, H.&T.C. Sur. Fsg. 1,545 ft.

Upton County

Rutter et al No. 1 Egolb, 330 ft. NE and 2,310 ft. SE, sec. 5, J. H. Gibson Sur. Loc.

Ward County

L. F. White et al No. 1 Rector-Monroe, E cor. sec. 3, Blk. 1, W.&N.W. Sur. Top Del. L. 4,635 ft.; top Del. sd. 4,670 ft.; T.D. 4,710 ft.; C.O.

Yoakum County

American Liberty Oil Co. No. 1 Claywater. T.D. 5,083 ft.; tstg.
J. W. Murchison et al No. 1 Sawyer, SE¼, sec. 702, Blk. D. Cellar.
Denver Prod. & Ref. Co. No. 1-A Whittenburg, sec. 830, Blk. 4. Drlg. 4,400 ft.
J. L. Greene et al No. 1 Nevels, sec. 709, Blk. D. Drlg. 4,800 ft.
Skelly and Sun Oil Co. No. 1 Kiser, sec. 640, Blk. D. T.D. 4,600 ft.; R.U.S.T.
Standard of Texas No. 1 M. B. Sawyer, sec. 576, Blk. D, J. H. Gibson Sur. T.D. 5,403 ft.; testing.
Texas Co. No. 1 Walker, sec. 794, Blk. D El. 3,656 ft.; T.D. 5,180 ft.; P.B. to 5,162 ft.; shot; acid.; swbg. oil and wtr.
P. N. Wiggins et al No. 1 Bartlett, sec. 359, Blk. D. Drlg. 2,351 ft.

RANGER (CENTRAL TEXAS) DISTRICT

Brown County

C. R. Cox, Tr., No. 1 Jan Lee, sec. 11, B.B.B.&C. Sur., NE cor. county. S.D. 240 ft.
R. A. J. Cox et al No. 1 H. A. Nichols, 10 mi. SE of Cross Cut, F. Wardsziski Sur., sec. 477. T.D. 2,550 ft.; S.D.O.
S. B. Roberts No. 1 Angell, 9 mi. SE Cross Cut, 2,050 ft. from E and S lines of B. H. Garvin Sur. M.I.M.
Ungren & Frazier and Paul Pitzer No. 1 Cox & McInnis, 660 ft. from N and W lines of sec. 88, I. S. Tabor Sur. (Map shows H.T.&B. Sur.). M.I.T.

Callahan County

R. F. Gilman et al No. 1 W. A. Young, 5 mi. NW Clyde, sec. 37, B.B.B.&C. Sur. Spdg.
Hal Hughes No. 1 Poindexter, sec. 350, Geo. Hancock Sur., 2 mi. NE of Oplin. Drlg. 3,100 ft.
J. C. Jackson et al No. 1 Thompson, 2 mi. S. Eula, sec. 30, B.B.B.&C. Sur. S.D. 1,500 ft.
Phillips Pet. Co. No. 1 Cozart, 1 mi. NW Scranton, M. Cherry Sur. Drlg. 1,280 ft.
Walker & Webb No. 1 Ross, 1 mi. NE Clyde, sec. 81, B.B.B.&C. Sur. Drlg. 600 ft.
Woodley Pet. Co. No. 1 Flores-Deep, 5 mi. SE Baird, sec. 149, B.B.B.&C. Sur. Drlg. 625 ft.

Coleman County

J. F. Brock No. 1 J. H. Livingston, SE cor. SW¼ county, J. D. Waters Sur. No. 208. Mov. in.
Dixie O.&G. Co. No. 1 Reaves, 6 mi. NW Bangs, J. M. Rhine Sur. No. 629. S.D. 805 reprs.
J. E. Ellis No. 1 Horseman, 6½ mi. SE Santa Anna, Block 2, R. Perry Sur. No. 195. S.D. 1,025 ft.

Comanche County

N. D. Gallagher et al No. 1 Mrs. B. I. Terry, Desdemona pool, N. H. Kuykendall Sur. Drlg. 4,335 ft.
Dobbs Oil Co. No. 1 Hodges, sec. 11, Blk. 2, H.&T.C. Sur. S.D. 1,370 ft.

Eastland County

G. D. Chastain et al No. 1 Weddington, 4 mi. N. Cisco, sec. 496, S.P.R.R. Sur. Drlg. 2,225 ft.
Hickok Prod. & Dev. Co. No. 1 Van Parmer, NW cor. county, sec. 477, S.P.R.R. Sur. Drlg. 3,825 ft.
J. D. Kittrell No. 1 Reynolds, 5 mi. E of Carbon, sec. 23, H.&T.C. Sur., Blk. 1. S.D. for 6-in. 900 ft.
Monark O. & G. Co. No. 1 Downtain, sec. 14 H.&T.C. Sur. Blk. 4, 3 mi. N Eastland. S.D. 2,140 ft.

Erath County

Arnold Oil Co. No. 1 McMillan, 2 mi. SE of Desdemona, T. H. Dixon Sur., Abst. 1,103. Drlg. 1,800 ft.
J. Hickey et al No. 1 Smith, 5 mi. SE Desdemona, J. B. Smith Sur. Drlg. 2,575 ft.
Hoffman & Page No. 1 Clayton, D. J. O. Millard Sur., 2 mi. SE Desdemona. Drlg. 2,800 ft.

Haskell County

E. W. Marland & H. B. Drake No. 1 Corothers, 6 mi. S Haskell, sec. 67, D. E. Zaaz Sur. Drlg. 3,875 ft.

Jack County

J. P. Burrus No. 1 W. J. Eatherly, J. Helmstutler Sur. S.D. 2,130 ft.
H. B. Madden No. 1 J. L. Mask, sec. 2708, T.E.&L. Sur. S.D. 3,000 ft.
Panhandle Ref. Co. No. 1 D. R. Sewell, 4 mi. E of Bryson, Mary Hamilton Sur., Abst. 262. T.D. 3,256 ft.; P.B. 3,065 ft.; tstg.
Perren & Gillespie No. 1 Clayton Bros., L. Knight Sur., Abst. 324, 2 mi. NE Bryson. 5⅞-in. 2,980 ft.; drlg. in.
O. J. Perrin No. 1 J. S. Rhodes, 3 mi. NE Bryson, J. W. Coates Sur. Loc.
Riner & Kelleher No. 1 L. S. Wright, 2 mi. NW Antelope, 330 ft. from S and W lines of J. S. Brooks Sur. Spud. and S.D. for rotary.
Taubert & McKee No. 1 Eatherly, 3 mi. NW of Gibbtown, SE cor. county. J. H. Henderson Sur. Spd. and S.D.
Joe Worsham et al No. 1 Cash, 3½ mi. NE of Bryson, I. White Sur., Abst. 895. T.D. 3,210 ft.

Jones County

Butler & Horne No. 1 Mrs. R. Cox, 6 mi. E. Hamlin, sec. 3, G.H.&H. Sur. Drlg. 2,450 ft.
E. P. Campbell et al No. 1 L. H. Lee, 5 mi. S Hawley, sec. 16, T.&P. Sur., Blk. 16. Drlg. 1,085 ft.
Fain, McGaha & Roberts No. 1 Daugherty, 2 mi. S Sandy Ridge pool, sec. 37, T.&P. Sur., Blk. 15. Sand 1,927-43 ft.; tstg.
Fain & McGaha Oil Corp. No. 1 Francis Olson, 3 mi. NE Avoca, sec. 190, B.B.B. &C. Sur. Drlg. 2,364 ft.
Felmont & Adams No. 1 Woodson, 1½ mi. SE Avoca, sec. 200, B.B.B.&C. Sur. Drlg. 1,825 ft.
Mack Hayes and Montour Oil Co. No. 1 Chittenden, 7 mi. SE Hamlin, Subd. 18, McMullen & McGloin Sur. 337. Spdg.
W. L. Herring et al No. 1 J. W. Grogan, ½ mi. SE Truly, Maria Rita Longario Sur. Drlg. 1,750 ft.
T. D. Humphrey No. 1 Fielder, 2½ mi. E Anson, sec. 34, O.A.L. Sur. Drlg. 385 ft.
Iron Mountain and Humble No. 2 Jones & Stasney, 3 mi. NE of Avoca, sec. 196, B.B.B.&C. Sur. Drlg. 2,335 ft.
Maro Oil Co. No. 1 Webb, sec. 2, C.&M. R.R. Sur., ¾ mi. NW Lueders. Drlg. 1,300 ft.
M. A. Mead No. 1 H. Osment. Drlg. 960 ft.
Oil States Expl. Co. No. 1 Olson, 4 mi. N Avoca, sec. 182, B.B.B.&C. Sur. Drlg. 1,675 ft.
Owen M. Murray et al No. 1 Rial, 2 mi. E Avoca, sec. 198, B.B.B.&C. Sur. Drlg. 1,530 ft.
Riddle et al No. 1 J. D. Freeman, 8 mi. SW Anson, sec. 6, T.&P. Sur., Blk. 17. T.D. 2,487 ft.; S.D. 2,487 ft.
Roeser & Pendleton No. 1 Rosenquist, 4½ mi. NE of Avoca, sec. 181, B.B.B.&C. Sur. Drlg. 3,065 ft.
Shaheen Oil Co. et al No. 1 Jenson, 2 mi. E of Avoca, sec. 198, B.B.B.&C. Sur. Drlg. 1,875 ft.
Southern Oil Co. No. 1 B. W. Thane NE cor. County. Andrew Jones Sur. 114. Drlg. 3,100 ft.
Stanton & Miller No. 1 Gaither, 4½ mi. N of Anson, sec. 38, B.B.B.&C. Sur. Drlg. 1,730 ft.
Ungren & Frazier et al No. 1 Carl Ecdahl, 3½ mi. NE Avoca, sec. 188, B.B.B.&C. Sur. Drlg. 2,695 ft.
C. E. Waite, Trust, No. 1 Ray, 3½ mi. SE of Stamford, sec. 7, D.&D.A. Sur. T.D. 1,750 ft.; running 10-in.

Palo Pinto County

W. H. Clement No. 1 Federal Life Ins. Co., 2 mi. W Mineral Wells, sec. 51, T.&P. Sur., Blk. A (E of B). S.D. for pipe 400 ft.
Bill Cole et al No. 1 J. W. Harris Est., NW cor. county, De La Garza Sur. Spdg. 85 ft.
Paul Garrett No. 1 Mabry heirs, NE cor. county, sec. 2,572, T.E.&L. Sur. S.D. 470 ft.
W. K. Gordon et al No. 1 Johnson, 5 mi. N Gordon, John Bird Sur. R.U.
Henry Hobbs et al No. 1 Bessie Holt, 4 mi. Graford, sec. 1,783, T.E.&L. Sur. S.D. 200 ft.
King Oil Co. No. 1 S. F. Lee, 4 mi. NW Graford, 933 ft. from N and W lines of sec. 1,744, T.E.&L. Sur. M.I.M.
Ernest Lloyd et al No. 1 McClure, 3 mi. NE Graford, sec. 2,004, T.E.&L. Sur. S.D. 1,200 for csg.
Lone Star Gas Co. No. 1 Hart Oil Corp., CWL county, sec. 19n, T.&P. Sur., Blk. 3, 4,000-ft. test. S.D.O. 4,150 ft.

Shackelford County

Joe DeGrazier No. 1 Harbough, E cen. part of county, sec. 1,563, T.E.&L. Sur. 4,500-ft. test.; spdg.
Forest Dev. Co. No. 1 Hendrick, NW cor. county, sec. 12, A.B.&M. Sur., but in sec. 1, Blk. A, A.B.&M. Sur. Plts.
T. D. Humphrey No. 1 Alston, NE cor. county, sec. 16, H.&T.C. Sur., Blk. 3. Drlg. 1,050 ft.
C. J. Kleiner et al No. 1 Morris, 2 mi. NE Bluff Creek pool, sec. 187, E.T.R.R. Sur. Drlg. 800 ft.
Mesa Verde Oil Co. No. 1 Hennessey, 7 mi. E of SW cor. county, sec. 87, T.&P. Sur., Blk. 13. M.I.
Owens-Snebold Oil Corp. No. 1 Haterius, sec. 163, B.B.B.&C. Sur. Drlg. 1,900 ft.

Stephens County

Barnett Pet. Corp. No. 1 J. Q. Corbett, 4 mi. SE Ivan, sec. 3, S.P.R.R. Sur., Blk. 3. Marble Falls 3,994-95 ft.; est. 10,000-000 ft. gas; T.D. 4,005 ft.; tstg.; est. 50 bbls. oil and 5,000,000 ft. gas per day; C.O. and rng. tubing.
W. B. Hamilton No. 1 B. O. Grant, CWL of county, sec. 63, B.A.L. Sur. 2,500-ft. test; drlg. 2,995 ft.
O. J. Perren No. 1 J. K. P. Hughes, NE cor. County of NW¼ sec. 6 A.B.&M. Sur., Abst. 2,683; P.B. to 3,970 ft.; drlg. by whipstock.

Stonewall County

General Crude Oil Co. No. 1 B. F. Harrison, NW cor. D. Harcrow Sur., 1½ mi. N of No. 1 Bryan. Drlg. 3,251 ft.

Tarrant County

E. E. Hoffpauir et al No. 2 W. H. Davis, 2 mi. S Arlington, H. Blackwell Sur. S.D.O. 2,140 ft.

Taylor County

Bert Fields et al No. 1 Sears, sec. 223, Blk. 64, H.&T.C. Sur. Setg. surface pipe.
Dale H. Dorn No. 1 Hopkins, 1 mi. NW View, Subd. 20, sec. 120, Guadalupe Co. Sch. Ld. Sur. S.D. 2,325 ft.
A. Findley No. 1 Bowles Est., NE cor. county, sec. 26, B.A.L. Sur. Drlg. 1,931 ft.

Wise County

Latex Oil Co. No. 1 Smith, 3 mi. E of Bridgeport, Jas. Couch Sur. T.D. 4,075 ft.; C.O. bridge; testing.

Canadian Investigation

CALGARY, Alberta.—In a letter to G. H. Sedgwick, chairman of the federal tariff board at Ottawa, W. S. Campbell, chairman of the marketing investigation committee of the Petroleum Producers Association, desires the tariff commission to consider: "Field prices of crude and naphtha in Turner Valley and of crude in foreign fields shipping into Canada; transportation costs and facilities for crude and naphtha to refinery points in Alberta; transportation costs of refined products in western Canada from Canadian refinery points, and from United States points; feasibility of increased duty on refined products, and of dumping duties at competitive points."

PERSONAL

EDMOND O. MARKHAM, of the Carter Oil Company's geological staff in Tulsa, and MRS. MARKHAM have returned from a honeymoon trip which took them through Missouri, Illinois, Indiana, Kentucky, Tennessee and Arkansas. Mrs. Markham was Miss Kathryn Wade, of Tulsa.

G. FRENCH, appointed manager of the recently created lubricating department of the Richfield Oil Corporation, Los Angeles, Calif., will assume full control, supervision and responsibility in matters concerning lubricating oils and greases and will have charge of all contacts in connection with the manufacturing and refinery departments, including specifications, test samples, special compounds and new products, as well as the activities of all lubricating engineers and lubricating surveys.

DR. PER K. FROLICH, director of chemical laboratories for the Standard Oil Development Company, subsidiary of the Standard Oil Company of New Jersey, has been proposed as a candidate for the presidency of the American Chemical Society. This honor has come to few men engaged in petroleum research.

J. M. JOHNSTON, fuel agent of the M-K-T Railroad since March, 1920, retired November 1 after 49 years of railroad service. Mr. Johnston, who has a wide acquaintance among oil refiners, began with the St. Louis-San Francisco Railroad in 1888 as fireman. He was successively engineer, traveling engineer and master mechanic. He later was appointed fuel agent for the Frisco, and as fuel oil buyer for the Frisco and Katy he made many friends in the oil industry.

A. O. OLSON, president of the Olson Drilling Company, Tulsa, was reported this week to have closed a contract for construction of a "luxury" sky cruiser, to be "one of the world's most palatial private airplanes." The ship, with sleeping accommodations for five persons, will be provided with electric refrigeration. Powered by two 350-horsepower engines, it will have a cruising speed of over 200 miles an hour.

ROBERT H. DOTT, director of the Oklahoma State Geological Survey, gave an address last Monday evening before the Tulsa Geological Society on "Something Besides Oil." For several years Mr. Dott, in cooperation with the federal government has done important research work in Oklahoma's mineral resources other than petroleum, and in his talk he discussed the results of his investigation. IRA A. CRAM, chief geologist of the Pure Oil Company's southwestern division, and secretary-treasurer of the American Association of Petroleum Geologists, was the speaker at the noon meeting of the society last Thursday.

H. D. EASTON, JR., petroleum engineer and geologist in Shreveport, La., is the father of a new baby girl.

F. E. SHAHEEN, independent operator of Abilene, Tex., is spending 10 days on a hunting trip in the mountains around Taos, N. M.

W. J. BARLOW, formerly chief clerk for the Texas Company in Fellows, Calif., has exchanged positions with E. P. BAKER, who held the same post at the company's Coalinga office.

CLIFF E. SAVAGE, assistant chief scout of the Carter Oil Company in Tulsa, has been transferred to the Rocky Mountain division of the company, with offices in Denver, Colo. Mr. Savage has been with Carter 18 years.

F. E. STEELE, formerly in the Bartlesville, Okla., office of Phillips Petroleum Company, has been transferred to the Shreveport district of that company as district engineer. He replaces R. W. STEWART, who was moved to the engineering department of the Phillips company in Bartlesville.

WILLIAM G. RANKIN, Louisiana commissioner of conservation, and DR. J. A. SHAW, director of the commission's minerals division, both of New Orleans, were in Shreveport most of last week, and they conducted a public hearing on the proposed volumetric allocation of oil and gas allowables from the Rodessa field.

J. H. McEVOY, president of J. H. McEvoy & Company, will leave Houston, Tex., with MRS. McEVOY, November 10, and after he has attended the American Petroleum Institute annual meeting in Chicago the two will visit Washington, D. C., and New York, and then sail late in the month for a pleasure trip to England.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Forty Bulgarian pipe line workers employed by Ardizzone & Ossenbeck, pipe line contractors, quit their jobs to go back home and fight the Turks.

Oklahoma-Kansas crude oil is advanced 3 cents per barrel, making the new price 73 cents. It was 50 cents per barrel on January 1. Pennsylvania Grade oil is $1.65 per barrel.

Montgomery County is the most active of Kansas oil region counties with Chautauqua a close second.

20 YEARS AGO

Captain Amos A. Allen, 80, who drilled salt wells in 1857, and for many years later was prominent in the eastern fields as a driller and oil producer, dies in Huntington, W. Va.

The largest casinghead gasoline plant in Pennsylvania is ready for operation near Bradford. It will have a capacity of 75,000 gallons of gasoline per day.

Labor troubles in the oil fields of Texas are blamed on I.W.W. activities. Gulf Coast pools are severely affected.

Germany is getting oil for war purposes from Rumania, having partly restored wells that were plugged or junked to keep them from the Kaiser.

10 YEARS AGO

Southwest Texas produces 28,000 bbls. of oil per day, half of it in the Luling field.

A 40,000,000-foot gas well in Lea County, New Mexico, strengthens the belief that large oil deposits underlie the eastern part of that county which lies north of the big Hendrick, Texas, pool.

Roxana Petrolem Corp., (Royal Dutch-Shell) is in the market for 70,000 tons of line pipe for an oil line in Texas and Oklahoma.

Jeremiah P. O'Meara, prominent oil lawyer, age 60 years, dies in Tulsa. He was formerly of the firm of Veasey, O'Meara and Owens.

C. W. DeLANCEY, assistant division superintendent of the Gulf Coast division of the Humble Oil & Refining Company, has returned from an extended tour of Europe.

M. F. SMITH has been transferred to Midland, Tex., from Houston, to head the crude oil purchasing department of the Shell Petroleum Corporation. He replaces E. A. SESSUMS, who recently was transferred to Tyler.

HALE B. SOYSTER, chief of the oil and gas leasing division of the U. S. Geological Survey, met operators of the Burbank, Okla., field last week. Plans were discussed for allocation of production in connection with the repressuring program.

H. H. GREENE, vice president of the Kendall Refining Company, spoke recently on "Safe Driving from the Executive Management's Viewpoint" at a meeting of the company drivers in Bradford, Pa. Twelve men received certificates for driving one to three years without an accident.

W. J. TRAVERSE, of Richfield Oil Corporation, has been transferred from the San Joaquin Valley to Long Beach, Calif., where he will be in charge of petroleum engineering. With MRS. TRAVERSE and their son he left his former headquarters near Fellows on November 1. F. T. CAMPBELL is his successor.

S. MASTON NIXON, assistant to the president of the Southern Minerals Corporation, Corpus Christi, Tex., urged the need for expansion of industrial sites on the city's deep water channel in an address before the Corpus Christi Rotary Club. He advocated extension of the channel to care for the demands of new industries centering in the port city, the refining and oil shipping industries being the most important.

PARAGRAPHS

JOHN M. MOUSER, land man for the Sinclair Prairie Oil Company in the Eastland, Tex., district, has resigned to accept a position in the land department of the Turman Oil Company, with headquarters in Tulsa. Mr. Mouser, a veteran oil man, went to Texas in 1925 with the Prairie Oil & Gas Company, from Kansas. He has been with the company 22 years. In his new position, he will be general land man for Oklahoma, Texas, New Mexico and Kansas.

RAY CHAMBERLAIN, of Bradford, was chosen president of the newly formed Pennsylvania Petroleum Dealers Association at an organization meeting in Harrisburg. JOHN LAMBERTI, Scranton, was elected executive secretary and FRANK ELLIS, Pittsburgh, treasurer. The association is designed to represent 30,000 retail gasoline dealers in the state. It thanked GOVERNOR GEORGE H. EARLE for backing the new oil control law and for placing enforcement in the hands of CHARLES M. FINLEY, director of liquid fuels tax. Mr. Finley spoke at the meeting.

R. O. COE, associated with the Sterling Oil & Refining Company, Houston, Tex., has resigned to join the Barnett Petroleum Corporation, Dallas, Tex., as scout and land man.

DEL FORTNEY, president of the Fortney Oil Company, Mount Pleasant, Mich., went to Olney, Ill., for a week to supervise the drilling in of a well at Noble, Ill. He has opened a company office in Olney.

W. M. HOLLAND, president of the Homestead Oil & Gas Company of Texas, has just returned to his home in San Angelo, Tex., from a business trip to Buffalo, N. Y., and the company's headquarters in Toronto, Canada.

G. N. KNAPP, geologist, of Stanton, Minn., accompanied by MRS. KNAPP, is on a trip to the West Coast. Mr. Knapp formerly was active in geological work in the Rocky Mountain territory. From 1919 to 1924 he figured in Montana oil developments and during 1925 in Colorado.

L. H. HUTCHINSON, former engineer for a Shreveport, La., oil company, has been appointed examiner for the Federal Petroleum Agency, with headquarters in Kilgore, Tex. Mr. Hutchinson has resided in Shreveport since 1919. He is a captain in the U. S. Army Reserve and recently completed a tour of active duty with the civilian conservation corps.

JOSEPH A. TAFF, consulting geologist for the Tide Water Associated Oil Company, Associated Division, San Francisco, has retired from active service. Mr. Taff's home is in Palo Alto, Calif. His retirement closes 28 years of active service as chief geologist and consulting geologist of the Southern Pacific Company and its once owned and affiliated oil companies.

S. M. TREADWAY, tankcar salesman in western Kansas for the Shell Petroleum Corporation, has been promoted to Kansas City as manager of tankcar sales for the western division, replacing M. H. SPRAGUE. Mr. Sprague is now in Santa Fe, N. M., where he is operating as a Shell jobber.

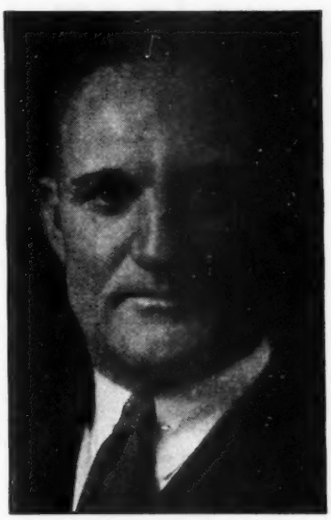
A. G. CHAMBERLAIN, personnel manager for the Frick-Reid Supply Corporation, Tulsa, suffered head cuts and dislocation of the jaw in a motor accident in that city last week. His mother-in-law, MRS. L. L. McCORMICK, suffered a fracture of the collar bone and possibly internal injuries. She is the mother of R. R. McCORMICK, associated with the Waite Phillips interests. Both the injured were taken to a hospital. MRS. CHAMBERLAIN, who was riding beside her husband in the front seat, was unhurt.

H. L. PRUSSING, assistant manager of the St. Joseph, Mo., sales division of the Standard Oil Company of Indiana since April 16, 1928, has been made agent in Rockford, Ill., in the Joliet, Ill., sales division. JOHN J. JOST, wholesale sales promoter in Mason City, Iowa, since October 1, 1936, has been promoted to assistant manager to succeed him.

AL W. WEEKS, district geologist for the Shell Petroleum Corporation in Wichita Falls, Tex., was elected president of the North Texas Geological Society at a luncheon and business meeting last Friday at the Wichita Club. Mr. Weeks, vice president of the society last year, succeeds GOSE WAGGONER. TOM F. PETTY, division geologist for the Humble Oil & Refining Company, was elected vice president, and P. E. M. PURCELL, assistant geologist for Shell, was named secretary-treasurer.

No Illusion About Farm

H. M. Williams, general production superintendent in Kansas for the Ohio Oil Company, had no illusions about farm life, and he remained a farm boy near Marion, Ind., where he was born in 1886, no longer than he had to. After graduating from high school he studied at the Marion State Normal School and received a teacher's license, which he did not use. He had worked as a teamster in the oil fields during his schooldays, and instead of teaching school he got a job as a roustabout in 1905 at Oilfield, Ill. In three years he had saved money enough to take a course at the Marion Business College. The training has been highly valuable, but it did not steer him into commercial life. Instead he went to work as a roustabout again, at Robinson, Ill., for the Ohio Oil Company, and he has been with that organization since.



H. M. WILLIAMS

Promotion to foreman over properties in Clark County, Illinois, came soon. When the Ohio Oil Company purchased the Mid-Kansas Oil & Gas Company in 1916 Mr. Williams was sent to Gordon, Kans., as foreman, but the next year he was advanced to superintendent, with headquarters in Augusta. Developments in Eldorado resulted in his office being moved to that field in 1922. In 1928 he was made general superintendent in the state, with headquarters in Wichita.

Mr. Williams married Miss Cora Losure in Charleston, Ill., and they have two children. He is a member of the Oil Advisory Committee in Kansas and likes to go fishing.

GEORGE W. LaPEIRE, consulting geologist, has moved his office from Flora, Ill., to Olney, Ill.

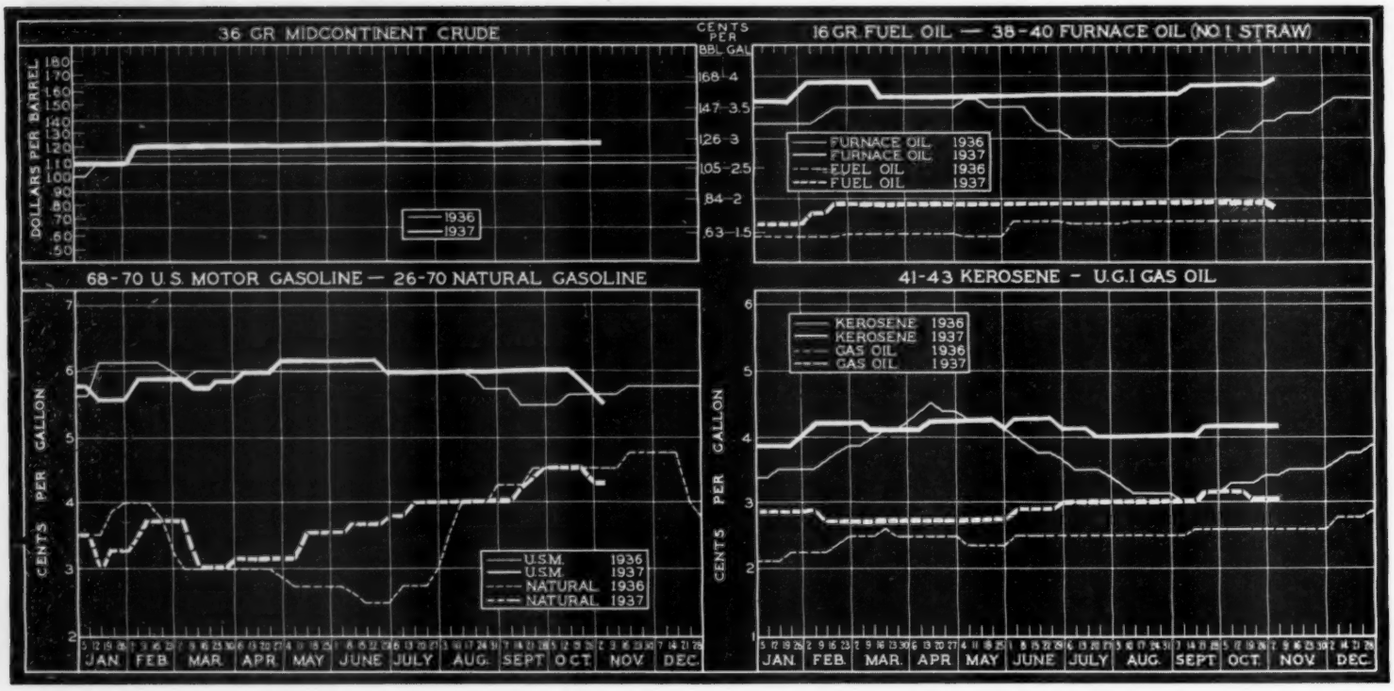
GEORGE W. STRAKE, independent operator of Houston, Tex., took "Communism" as his subject for a talk last Sunday at a Catholic meeting in Villa de Matel, that city.

HOMER E. HAVENSTRITE, drilling superintendent for the Iniskin Drilling Company, arrived last week in Los Angeles after spending five months at the company's wildcat in Alaska.

S. F. SHAW, consulting engineer for the Westgate-Greenland Oil Company, has returned to Oklahoma City, Okla., from Corpus Christi, Tex.

AUBREY W. SCHOFIELD, a member of the Housh, Schofield & Thompson Drilling Company, Houston, Tex., left last week for Venezuela. He will be placed in charge of the Mene Grande Oil Company's operations in eastern Venezuela, where a large development program is getting under way.

W. S. CRAKE, Houston, Southwest Texas division mechanical engineer for the Shell Petroleum Corporation, left last week for Trinidad, where he is to be associated with the United British Oilfields of Trinidad, Shell subsidiary, as mechanical engineer. Mr. Crake had been located in Houston for the past four years and was formerly secretary of the Houston chapter of the A.P.I. He will reside in Port of Spain, although much of his time will be spent in the field. MRS. CRAKE and her two sons will go to Trinidad by boat within the next month. Mr. Crake came to this country from England 10 years ago. He was a field engineer in West Texas before being transferred to the Houston headquarters.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Shutdowns Likely as Gasoline Prices Sink to Lower Levels in Group 3

By T. F. SMILEY

Further tumbling of tankcar prices on all grades of gasoline deepened uneasiness in the Group 3 territory in the past week. The whole list slipped an eighth-cent, and reports were current that a few cars of third-grade material, pressed for quick outlet, had gone to northern buyers at 4 cents. An epidemic of shutdowns seems imminent, for many refiners declare profitable operation is impossible for them at the present level of gasoline prices, and some plants are asserted to be running at an actual loss on every barrel of crude processed. One of the latest to be closed was that of the Globe Oil & Refining Co. in Blackwell, Okla., which discontinued operation Tuesday of this week.

Stocks Cause Concern

Among conditions contributing to the prevailing nervousness one mentioned repeatedly is the total gasoline stocks with which the refining industry enters its season of restricted demand. The nation's stocks, around 9,000,000 bbls. greater than they were in the corresponding period last year, and growing bigger every day, are declared to call for careful consideration. Although they are not regarded as constituting any immediate reason for alarm, forward-looking refiners say it is none too early to begin planning against overheavy inventories next year.

Small refiners, with no sales organization and with limited storage facilities, are said to be the particularly vulnerable point in the present unsettled market. Such refiners have disposed of material to brokers at bargain prices rather than keep it with the prospect of having to accept a still lower figure later. Unwilling to increase their inventories in a falling market, jobbers too have taken seats on the sidelines, confining their purchases to day-to-day requirements. In the East Texas area, recently a scene of active buying, there were said to be mounting stocks this week.

Some observers profess to see grounds for hope that a better market will emerge from the present confused conditions. They say there is an increasing disposition among well-managed companies to bring their operations closely into gear with consumer requirements. This, along with the expectation of spreading refinery shutdowns, is viewed as likely to have a steadying effect on the market. These observers are inclined to think the persistent fear of a cut in crude prices is a potent factor in the existing market heaviness, and they express confidence that not only will there be no crude cut, but that the turn of the year is likely to see higher postings. In the meantime there is no blinking the worried state of the trade.

Refined Oil Market Barometer

Moderate weather in most areas has helped gasoline consumption, but retarded demand for the heating oils, which, however, are moving in fairly satisfactory volume. The gasoline market is increasingly unsettled, with unwieldly inventories seeking outlets and jobbers disinclined to buy more than is necessary to fill day-to-day needs. Export business is adding firmness to natural gasoline.

MID-CONTINENT. Gasoline weaker. Naturals firmer. Heating oils steady.

EAST COAST. Burning oils slightly easier. Kerosene steady. Gasoline spotty.

GULF COAST. Kerosene and burning oils stronger. Gasoline weak.

CALIFORNIA. Burning oils, diesel and fuel oil steady. Gasoline holding.

PENNSYLVANIA. Fuel oil up. Kerosene strong. Gasoline softer. Lubricants weak.

CHICAGO. Gasoline easy. Kerosene and range oil active. Light fuel oils strong.

Natural Shows Steadier Tone

Natural gasoline exhibited a somewhat steadier tone than last week. Quotations were virtually unchanged, but in point of available supplies the market was in better shape. It was said small quantities of 26-70 had changed hands at 4⅛ cents in Oklahoma and 4 cents in Texas, but that it was off-specification material. In fact, some manufacturers were reported purchasing substantial volumes of 26-70, and paying the ruling prices for it, to finish out their month's commitments. As little material was overhanging the market, these purchases, supplementing large takings by refiners in the regular course of making winter-specification motor fuel, are believed to have absorbed most of the natural that had no ready outlet. Jobber buying was a little more active. One cargo order was placed last Saturday, and several other export inquiries are in the market.

Demand for kerosene, furnace distillates and tractor fuels continued firm, although there has not yet been any of the snapping cold weather that is needed to start urgent call for heating oils. Heavy residual fuels were dull, with prices tending to sag. Contract movement in the lubricant group was reported good, but spot transactions were the subject of haggling in some cases. Wax was steady.

Moderate Temperature Is Retarding Oil Heating Season on East Coast

By H. STANLEY NORMAN

NEW YORK, Nov. 2.—Tardy development of the domestic heating oil season has produced a temporary lull in the burning material and perhaps has softened tone of the market. The situation in fuel oil, however, has not been aggravated to the extent that prices have suffered from levels established several weeks ago. The ill effect of continued moderate temperatures in the northeastern Atlantic district has been in the form of retarded market advances and in a slow turn-over of material.

Other than further cuts in Pennsylvania lubricating oil prices, the general refined oil market in the northeast last week can be best described as unchanged.

Gasoline is moving briskly against contracts, but open market spot business is suffering from a restriction on automobile driving normal to this season of the year. The heavy week-end motor fuel demand occasioned by throngs driving to football games is contributing immeasurably to satisfactory gasoline business. Since the quarter of a cent per gallon reduction in the New Jersey tankcar market three weeks ago there has been no further change in the area surrounding New York.

The tank-wagon price in certain northern Pennsylvania counties was reduced a cent per gallon 10 days ago by Sun Oil Co. The reduction was reported after several dealers handling unbranded products initiated similar or lower prices. Sun's new price in Lancaster, York, Adams, Franklin and Cumberland counties, Dauphin County south of Spieceville and a portion of Chester County is 9 cents per gallon exclusive of tax to tank-wagon customers.

The northern New Jersey retail gasoline market continued unsettled with three or four prices prevailing within a radius of 5 or 10 miles on the main traveled highways. The lowest retail price reported was 13.9 cents per gallon, but other quotations ranged up to 16.9 cents for "house brand" motor fuel at several major company stations.

There has been no change in the prospects for a record breaking fuel oil consuming season, but some dealers who had absorbed heavy stocks in anticipation of early fall business have been compelled to make certain concessions in price or service to make room for additional material arriving from the Gulf Coast. Irrespective of the momentarily dull season in fuel oil consumption, prices have held generally steady. Some tankcar sales of No. 2 fuel oil have been reported at 5⅛ cents for the past several weeks, but all large suppliers are quoting 5¼ cents. Most tank-wagon consumers in New York, New Jersey, Westchester and surrounding districts are being billed at 7 to 7¼ cents per gallon for current deliveries. There has been no change, however, in the summer contracts which stipulated a price range over the winter from 7 to 8 cents per gallon delivered in the consumers' tanks.

Reduce Eastern Gasoline and Bunker C Prices

Socony-Vacuum Oil Co., Inc., reduced tankcar and tank-wagon gasoline prices one-half cent per gallon early this week in most parts of New York and in most of the New England territory. It was the first major change in gasoline prices since last July when a general advance of one-half cent per gallon was posted.

A break also occurred early this week in Bunker C fuel oil prices. Standard Oil Co. of New Jersey set the pace by reducing Bunker C fuel oil 10 cents per barrel at North Atlantic ports. The new price of $1.25 per barrel applies to f.o.b. terminal deliveries at New York, Boston, Baltimore and Norfolk, while $1.20 per barrel is posted at Charleston, S. C.

Kerosene is also holding steady at unchanged prices. The demand is reported active and considerable material is moving currently to river terminals and to bulk plants.

Cylinder oil, the 600 steam refined filterable grade, was available at some plants for 9 to 9½ cents, while some suppliers said 10 cents was the minimum bid in which they would be interested. The cylinder oil market ranged up to about 14½ or 15 cents per gallon for 600 Warren E material and about 18½ cents for 630 filtered stock.

Compensating in a measure for the dull lubricating oil market existing in western Pennsylvania is the brisk demand at strong to improving prices for all grades of gasoline and kerosene. Several plants were asking one-eighth of a cent more for 65-octane gasoline and reported that the advance apparently produced no lull in demand. The 65-octane gasoline was selling at 7¾ cents per gallon at the end of last week while the U. S. Motor grade of inferior octane rating was moving satisfactorily at 5¾ to 6 cents per gallon.

Business in the Gulf Coast cargo market was not particularly active last week, but prices are holding firm. Sufficient orders are being placed against long-term contracts to keep the coastwise market reasonably free of distress material. The export inquiries developing currently on the Gulf Coast indicate a keen interest remains in gas oil. Quotations for exportable grade of gas oil range around 4½ to 4⅝ cents per gallon with probably a majority quoting the higher figure to prospective purchasers. A cargo of No. 2 fuel oil for coastwise movement, November loading, was sold recently at 4⅞ cents per gallon, which is a shade higher than the price involved on the last previously reported sale.

Gulf Coast kerosene prices are unchanged from the previous week at 5¼ to 5⅜ cents per gallon for 41-43 water white specification material.

White crude scale wax prices in New York and Pennsylvania remained unchanged at 2.85 to 2.95 cents per pound, although some are quoting 3 cents. Business is reported dull, but suppliers are not anxious sellers in the open market since contract volume is holding up well.

Bunker C fuel oil is unchanged in New York harbor at $1.35 per barrel. Rumors persist that the market is none too firm, but only a few unimportant sales at less than the $1.35 quotation can be confirmed.

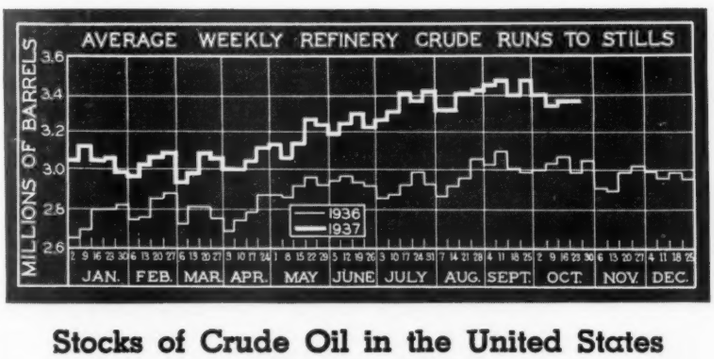
Medium and heavy fuel oils and shore plant diesel oil were all advanced by Standard Oil Co. of New Jersey at Philadelphia one-quarter of a cent per gallon, effective October 7. The new price for all three grades of oil involved is 5¼ cents. Other companies had posted similar increases during the month to Philadelphia trade.

Neutral, bright stock and cylinder oil in the western Pennsylvania refining district continued extremely weak with further price concessions reported on practically all grades of lubricants. Neutral oils were selling for 1½ to 2 cents per

(Continued on Page 104)

A. P. I. Weekly Refinery Statistics

FIGURES FOR THE WEEK ENDING OCTOBER 30 UNAVAILABLE DUE TO NEW YORK ELECTION HOLIDAY



Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

October 16, 1937	307,897,000 barrels
October 9, 1937	309,009,000 barrels
October 17, 1936	290,476,000 barrels

RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of November 2, 1937

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr.	Inc. tax	Kero. tank-wag.
Chicago, Ill.	15 5	13 5	4 0	10 1
Decatur	15 5	14 0	4 0	10 1
Joliet	15 5	14 0	4 0	10 1
Peoria	15 5	14 0	4 0	10 1
Quincy	15 3	13 8	4 0	9 9
Davenport, Ia.	15 5	14 0	4 0	‡13 1
Des Moines	15 3	13 8	4 0	‡12 9
Mason City	15 7	14 2	4 0	‡13 3
Sioux City	15 5	14 0	4 0	‡13 1
Duluth, Minn.	17 3	15 8	5 0	10 9
Mankato	16 9	15 4	5 0	10 5
Twin Cities	16 9	15 4	5 0	10 5
Lacrosse, Wis.	16 9	15 4	5 0	10 5
Green Bay	17 2	15 7	5 0	10 8
Milwaukee	16 8	15 3	5 0	10 4
Detroit, Mich.	15 4	13 9	4 0	9 8
Grand Rapids	16 5	15 0	4 0	10 9
Saginaw	16 3	14 8	4 0	8 5
Evansville, Ind.	17 0	15 5	5 0	‡10 6
Indianapolis	17 2	15 7	5 0	‡10 8
South Bend	17 4	15 9	5 0	†9 6
Fargo, N. Dak.	16 9	15 4	4 0	11 5
Minot	18 1	16 6	4 0	12 7
Huron, S. Dak.	17 3	15 8	5 0	10 9
Kans. City, Mo.*	14 9	13 4	4 0	8 0
St. Louis*	15 2	13 7	4 0	9 8
St. Joseph*	14 9	12 4	4 0	9 0
Wichita, Kans.	14 4	12 9	4 0	8 0

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Iowa kerosene prices include 3-cent state tax.

(Exclusive of state general sales taxes, except Indiana and South Dakota.)

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective Dec. 7, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.3 cents. Stanolex No. 1, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex furnace oil, 1-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex A, 1-399 gallons, 5.75 cents; 400 gallons and over, 4.75 cents. Stanolex B, 1-799 gallons, 5.75 cents; 800 gallons and over, 4.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Inc. tax	Kero. tank-wag.
Atl'tic City, N. J.	13 5	12 0	4 0	9 0
Newark	13 5	12 0	4 0	9 0
Annapolis, Md.	15 6	14 1	5 0	9 5
Baltimore	15 0	13 5	5 0	9 0
Cumberland	17 4	14 9	5.0	10.0
Wash'g'n, D. C.*	12 5	11 0	3 0	9 5
Danville, Va.	18 2	15 7	6 0	12 9
Norfolk	17 0	14 5	6 0	11 5
Petersburg	17 3	14 8	6 0	11 7
Richmond	17 3	14 8	6 0	11 7
Roanoke	18 5	16 0	6 0	12 9
Charles'n, W. V.	17 8	15 3	6 0	12 6
Parkersburg	17 1	14 6	6 0	11 2
Wheeling	17 0	15 5	6 0	12 2
Charlotte, N. C.	19 4	16 9	7 0	12 6
Hickory	19 9	17 4	7 0	13 0
Mt. Airy	19 7	17 2	7 0	12 8
Raleigh	19 0	16 5	7 0	12 1
Salisbury	19 5	17 0	7 0	12 7
Charleston, S. C.	18 0	15 5	7 0	11 1
Columbia	19 0	16 5	7 0	12 1
Spartanburg	19 7	17 2	7 0	12 9

*Standard of N. J. has discontinued posting service-station prices at all above points except at Washington and Baltimore where station prices of 16.0 and 18.5 cents, respectively, are in effect.

Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5-cent per gallon.

Effective May 15, 1937, in North and South Carolina, West Virginia and Virginia (except Arlington and Fairfax counties): Commercial consumers taking deliveries of 50 gallons (W. Va., 100 gallons) or more at one time will be billed at posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons (W. Va., 100 gallons) will be billed at 4 cents per gallon over posted consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon.

Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline Tank wag.	Gasoline Net dlr.	Inc. tax	Kero. tank-wag.
Atlanta, Ga.	21 0	18 0	7 0*	†12 0
Augusta	21 0	18 0	7 0	*14 0
Macon	21 5	18 5	7 0	*14 5
Savannah	19 0	16 0	7 0	*12 0
Birm'ham, Ala.	20 0	17 0	8 0	12 0
Mobile	22 0	19 0	9 0	11 0
Montgomery	22 0	19 0	9 0	14 5
Jackson, Miss.	20 0	17 0	7 0	*13 0
Vicksburg	20 0	17 0	7 0	*13 0
Jacksonville, Fla.	20 0	17 0	8 0	†10 0
Miami	20 5	17 5	8 0	†12 5
Pensacola	22 0	19 0	9 0	12 0
Tampa	19 0	16 0	8 0	10 5
Lexington, Ky.	20 0	17 0	6 0	11 0
Covington	19 5	16 5	6 0	11 0
Louisville	20 0	17 0	6 0	10 5
Paducah	20 0	17 0	6 0	10 0

Price basis to tank-wagon consumers: Effective January 4, 1937, 3 cents per gallon below tank-wagon price. Kerosene prices in all states subject to 2 cents discount except in Kentucky where prices are net.

*Includes 1-cent state tax. †Subject to 2-cent discount.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Dealer	Inc. tax	Kero. tank-wag.
Denver, Colo.	17.5	5 0	11.5
Grand Junction	20 0	5 0	15 0
Pueblo	16 0	5 0	10 5
Casper, Wyo.	18 0	5 0	11 5
Cheyenne	18 0	5 0	13 0
Butte, Mont.	19 5	6 0	15 5
Billings	21 0	6 0	15 5
Helena	21 5	6 0	15 5
Great Falls	21 5	6 0	15 5
Salt Lake, Utah	19 5	5 0	16 0
Twin Falls, Ida.	21 5	6 0	18 0
Boise	21 5	6 0	18 0
Albuquerque, N. M.	17 5	6 5	12 0

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank wag.	Gasoline Di-vided con't. dlr.	Inc. tax	Kero. tank-wag.
Ohio points	17 0	16 0	5 0	*13 5

*Includes state tax of 1 cent.

Discounts to commercial consumers, contract: Effective Aug. 12, 1937, for Ohio state-wide, 20,000 gallons or over per month, 1 cent per gallon off commercial consumer tank-wagon price. Tank-wagon price is price to commercial consumers in deliveries of 25 gallons or more; less than 25 gallons gets service-station price. Price to undivided dealers is same as to commercial consumers.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Dlr.	Inc. tax	Kero. tank-wag.
Omaha	17 9	16 4	6 0	10 4
McCook	18 0	14 0	6 0	10 0
Norfolk	18 3	16 8	6 0	10 8
North Platte	18 7	17 2	6 0	11 2
Scotts Bluff	19 4	15 9	6 0	11 9

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
San Francisco	17 5	18 5	4 0	11 5
Los Angeles	17 0	18 0	4 0	9 0
Fresno, Calif.	18 5	19 5	4 0	12 0
Phoenix, Ariz.	21 0	22 0	6 0	‡16 0
Reno, Nev.	20 0	21 0	5 0	13 0
Portland, Ore.	20 0	21 0	6 0	13 5
Seattle, Wash.	20 0	21 0	6 0	13 5
Spokane	23 0	24 0	6 0	16 5
Tacoma	20 0	21 0	6 0	13 5

‡Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Inc. tax	Kero. tank-wag.
Albany, N. Y.	15 0	13 5	5 0	9 0
*Met. N. Y.:				
Manh't'n, Br'nx	14 5	13 5	5 0	9 0
Staten Island	15 0	13 5	5 0	9 0
Q'ns & Brklyn	14 5	13.5	5.0	9.0
Buffalo	15 05	14 04	5 0	8 5
Rochester	15 5	14 17	5 0	8 5
Syracuse	15 0	14 12	5 0	9 5
Boston, Mass.	12 5	13 0	4 0	8.5
Portland, Me.	15 3	13 5	5 0	8 75
Manch'ter, N. H.	16 3	14 0	5 0	9 5
Burlington, Vt.	15 9	13 9	5 0	9 5

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point; monthly purchases under 5,000 gallons, pay divided dealer tank-wagon price at delivery point.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Dealer	Inc. tax	Kero. tank-wag.
Muskogee, Okla	15 0	5 0	7 0
Oklahoma City	14 0	5 0	8 0
Tulsa	14 0	5 0	6 0
Ft. Smith, Ark.	15 5	5 0	8 0
Little Rock	18 0	7 5	9 5
Texarkana	15 5	5 0	8 5

Texas

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Dallas, Tex.	14 0	18.5	5 0	8 0
Fort Worth	13 5	18 0	5 0	8 0
Houston	14 5	18 5	5 0	8 0
San Antonio	14 5	18 5	5 0	8 0

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Inc. tax	Kero. tank-wag.
N. Orleans, La.	20 5	18 0*	10 0	†13 0
Baton Rouge	18 5	16 0	8 0	12 0
Alexandria	19 0	16 5	8 0	12 0
Lafayette	19 5	17 0	8 0	13 0
Lake Charles	19 5	17 0	8 0	12 5
Shreveport	18 0	15 5	8 0	9 5
Knoxville, Tenn.	21 5	19 0	8 0	14 0
Memphis	19 5	17 0	8 0	12 0
Chattanooga	21 0	18 5	8 0	13 5
Nashville	20 5	18 0	8 0	11 5
Bristol	20 25	19 0	8 0	14 5

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax.

Standard of La. has transferred all stations to dealers except in New Orleans and Baton Rouge where station prices are 24 and 22 cents per gallon, respectively.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one delivery takes posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon.

Louisiana kerosene prices include 1-cent state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Inc. tax	Kero. tank-wag.
Philadelphia, Pa.	14 0	12 5	5 0	10 5
Pittsburgh	15 5	13 5	5 0	11 0
Allentown	15 0	13 5	5 0	11 0
Erie	14 5	13 0	5 0	10 0
Scranton	15 0	13 5	5 0	11 0
Altoona	15 5	13 5	5 0	11 0
Dover, Del.	14 5	....	5 0	11 0
Wilmington	14 5	....	5.0	11 0
Spring'd, Mass.	13 3	....	4 0	9 0
Worcester	14 3	....	4 0	9 0
Hartford, Conn.	14 1	....	4 0	9 0
New Haven	14 0	....	4 0	9 0
Providence, R. I.	14 0	....	4 0	8 5

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers in Pennsylvania and Delaware, effective March 11, 1937: Consumers under contract using 100,000 gallons or more per year full compartment hose deliveries, tankcar plus .5 cent. Consumers under contract using less than 100,000 gallons per year compartment hose deliveries, undivided dealer price. Consumers under contract less than full compartment delivery, consumers not under contract less than full compartment delivery, and consumers not under contract full compartment delivery, divided dealer price. Less than 25 gallons, tank-wagon delivery, 4 cents per gallon above undivided dealer price.

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150 gallon lots if covered by contract.

Canada*

3 Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero. tank-wag.
Halifax, N.S.	24 0	8 0	18 5
St. John, N.B.	24 0	8 0	18 5
Montreal, Que.	21 0	6 0	17 5
Toronto, Ont.	22 0	6 0	17 0
Hamilton, Ont.	22 0	6 0	17 0
Winnipeg, Man.	27 5	7 0	20 7
Brandon, Man.	29 8	7 0	22 3
Regina, Sask.	29 5	7 0	22 0
Saskatoon, Sask.	32 3	7 0	24 8
Edmonton, Alta.	29 5	7 0	24 2
Calgary, Alta.	27 0	7 0	21 5
Vancouver, B.C.	23 0	7 0	23 0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon price. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Retail Price Changes

Standard Oil Co. of Kentucky October 12 reduced tank-wagon and dealer gasoline 1 cent in Jackson and .5 cent in Vicksburg; October 15 reduced tank-wagon and dealer gasoline .5 cent in Jacksonville; October 19 advanced tank-wagon kerosene .5 cent in Miami.

Continental Oil Co. October 27 reduced tank-wagon kerosene 1 cent in Tulsa.

Socony-Vacuum Oil Co., Inc., October 18 reduced dealer gasoline .5 cent in Syracuse; October 20 advanced dealer gasoline 1.1 cent in Portland.

New York Market

(Continued from Page 103)

gallon less during the past week, and even with this cut as an attraction, business volume was still disappointing. The range on bright stock was from 16 to 19 cents per gallon, although several refiners said they would be interested in making deliveries at less than 17 cents per gallon for 25 pour test bright stock.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of November 2, 1937

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 oct. and below (3d gr.)	.04¼	.04⅜
63-66 octane	.04⅜	.05
67-69 octane	.05⅛	.05¼
70-72 octane (regular)	.05½	.05⅝
60-62 400 grades:		
62 oct. and below (3d gr.)	.04¼	.04⅜
63-66 octane	.04⅜	.05
67-69 octane	.05⅛	.05¼
70-72 octane (regular)	.05½	.05⅝
64-66 375	.04⅜	.05
68-70 360	.05	.05⅛

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04¼	.04⅜
63-66 octane	.04⅜	.05
67-69 octane	.05⅛	.05¼
70-72 octane (regular)	.05½	.05⅝
60-62 400	.04¼	.04⅜
64-66 375	.04⅜	.05

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:		
62 octane and below	.05	.05¼
63-66 octane	.05¼	.05½
67-69 octane	.05½	.05¾
70-72 octane (regular)	.05¾	.06

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:		
62 octane and below	.05	.05¼
63-66 octane	.05¼	.05½
67-69 octane	.05½	.05¾
70-72 octane (regular)	.05¾	.06

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04¼	.04½
63-66 octane	.04¾	.05
67-69 octane	.05¼	.05¼
70-72 octane (regular)	.05½	.05⅝
60-62 400 grades:		
62 octane and below	.04¼	.04⅜
63-66 octane	.04⅞	.05
67-69 octane	.05⅛	.05¼
70-72 octane (regular)	.05½	.05⅝
64-66 375	.04⅞	.05
68-70 360	.05	.05⅛

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.05⅜	.05⅝
60-64.9 octane	.07¼	.07½
65-70 octane	.07⅜	.07⅝
64-66 390	.05¾	.06
68-70 350	.06	.06¼

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07½	.08½
58-60 400, 65 oct. and higher	.08¼	.09¼

EAST COAST (Domestic)—

U. S. Motor below 60 octane:		
*New York (Bayonne)	.06¼	.06½
Baltimore	.06	.06¼
U. S. Motor, 60-64.9 octane:		
*New York (Bayonne)	.07¼	.07¾
Philadelphia	.07¼	.07½
Boston	.07¾	.08¼
Baltimore	.07¼	.07½
Charleston, S. C.	.07¼	.07¾
U. S. Motor, 65 and above:		
*New York (Bayonne)	.07½	.08
Philadelphia	.07¼	.07¾
Boston	.07¾	.08¼
Baltimore	.07½	.08
Charleston, S. C.	.07¾	.08¼

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:	
Below 60 octane	.05⅞
60-64.9	.06
65 octane and higher	.06¼

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05½	.05⅝
52-54 450 (blending)	.05½	.05⅝
54-56 450 (blending)	.05⅝	.05¾

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.04⅛
Grade 18-55	.05⅛	.05¼

NORTH TEXAS—

Grade 26-70		.04⅛
Grade 18-55	.05	.05⅛

CALIFORNIA—

75-85 375-390	.06¾	.07½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.04⅝	.04¾

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110 flash, 540-550 e.p.	.04⅛	.04¼
41-43 gr., 300-350 i.b.p., 110-125 flash, 500-520 e.p.	.04¼	.04½
46-48 gr., 210-230 i.b.p., 480 max. e.p.	.04¾	.04⅞

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.04⅛	.04¼
42-44	.04¼	.04½

NORTH TEXAS—

41-43	.04⅛	.04¼

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43		.04½

ARKANSAS (Ark., N. La., Miss. del.)—

41-43	.04⅝	.04¾

PENNSYLVANIA (inland refineries)—

45	.05⅜	.05½
46	.05½	.05⅝
47	.05⅝	.05¾

CHICAGO (Based on Group 3)—

41-43	.04	.04¼
42-44	.04¼	.04½

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04¾	.06

NEW YORK (Bayonne, N. J.)—

41-43		.06 3/10

***GULF COAST (domestic)—**

41-43		.05¼

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.04	.04⅛
No. 1 straw, 38-40		.03⅞
No. 2 straw, 32-36	.03⅝	.03⅞
No. 2 dark, 32-36	.03½	.03⅝
No. 3 zero to 15, 28-32	.03⅜	.03½
No. 3, 15 and above, 28-32	.02⅞	.03

NORTH TEXAS—

No. 1 prime white, 38-42	.04	.04⅛
No. 1 straw, 38-40	.03¾	.03⅞

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03½	.03⅝

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36		.03¾

CHICAGO (Based on Group 3)—

No. 1 prime white, 38-40	.04	.04⅛
No. 1 straw, 38-40	.03¾	.03⅞
No. 2 straw, 32-36	.03⅝	.03¾
No. 2 dark, 32-36	.03⅜	.03⅝
No. 3, zero to 15, 28-32	.03⅜	.03½
No. 3, 15 and above, 28-32	.02⅞	.03

NEW YORK (Bayonne, N. J.)—

*No. 1		.06 3/10
*No. 2		.05½
*No. 4		.05¼

*Barge deliveries one-eighth to one-fourth cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal.; fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.03	.03¼
No. 4, low cold test, 24-28	1.07½	1.12½
No. 4, 15 and above, 24-28	.90	.95
No. 5, low cold test, 18-22	.85	.90
Below 18 fuel oil, industrial	.75	.80

NORTH TEXAS—

U.G.I. gas oil	.03	.03⅛
No. 4, low cold test, 24-28	1.07½	1.12½
No. 5, low cold test, 18-22	.82½	.87½
Below 18 fuel oil, industrial	.75	.80

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

10-14 fuel oil, industrial	.80	.85

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.03	.03⅛
No. 4, low cold test, 24-28	1.07½	1.12½
No. 4, 15 and above, 24-28	.90	.95
No. 5, low cold test, 18-22	.85	.90
No. 5, 15 and above (18-22)	.80	.85
No. 6, low cold test, 10-16	.77½	.80

PENNSYLVANIA (inland refineries)—

36-40	.04⅝	.05

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbl.	1.40	1.50
24 plus diesel, per bbl.	1.35	1.45
24 plus diesel (bunkers)	1.60	1.65
12-16 (bunkers at tidewater)	1.05	1.10
10-16 (cargo lots)	.90	1.10
12-17 (tankcars)	.95	1.15
10-17 (high sulfur)	.65	.95
San Joaquin Valley:		
10-18 (tankcars)	.75	1.00
24 plus diesel, per bbl.	1.40	1.50
24 plus diesel (bunkers)	1.60	1.65
10-16 (bunkers)	1.10	1.15

GULF COAST—

28-30 gas oil	.04½	.04⅝
28-30 diesel (bunkers)		1.90
Bunkers (bulk cargoes)		.85
Bunker C (bunkers)		1.05

NEW YORK (Bayonne N. J.)—

27 plus, gas oil	.05	.05¼
28-30 diesel (lighterage 6¼c per bbl.)		2.20
28-30 diesel (tankcars)		.05¼
Bunker C (to ocean-going ships in N. Y. harbor)		1.25
Industrial fuel (tankcars)	.04½	.04¾

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

Bright Stocks:		
190-200 D, 15-25		.20
150-160 D, 0-10		.17
150-160 D, 15-25		.16
150-160 E, 15-25		.15½
100-110 D, 0-10		.15½
Steam refined:		
631 green (treated)		.15½
600 dark green (untreated)		.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour test	.19	.20
15 pour test	.18	.19
20 pour test	.17	.18
25 pour test	.16	.17
Steam refined:		
600	.09	.09½
650	.13½	.14
600 Pennsylvania flash	.14	.14½
630 flash	.18	.18½
600 Warren E filtered	.14	.14½

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:		
150-3		.09
180-3		.10
180-4		.09½
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-3½		.13
400-3½		.14
100-2½ paraffin oil		.06
15-20 Cold Test:		
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.11½

GULF COAST—

Pale Oils:		
200-3	.07	.07⅛
300-3	.07½	.07¾
500-3½	.08½	.08¾
750-3½	.08⅝	.09¼
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red Oils:		
200-5-6	.07¼	.07½
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale Oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red Oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° F. color, 400-405 flash:		
Zero pour test	.21	.21½
10 pour test	.20	.20½
15 pour test	.19½	.20
25 pour test	.18½	.19
180 vis. at 70° F., 3 color:		
25 pour test	.21	.21½
200 vis. at 70° F., 3 color:		
Zero pour test	.25	.25½
10 pour test	.24	.24½
15 pour test	.23½	.24
25 pour test	.22½	.23

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale		.03

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0295	.0300
124-126 (a.m.p.) w.c. scale	.0295	.0300

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0295	.0300
124-126 (a.m.p.) y.s.	.0265	.0280
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.05⅞
60-62 400		.06¼
61-63 390	.06⅛	.06¼
64-66 375		.06⅛

LOS ANGELES—

U. S. Motor grades:		
55-65 octane		.06
65-69 octane		.06¼
Above 69 octane		.06½

KEROSENE

GULF COAST—

41-43 prime white		.05
41-43 water white		.05¼
44 water white		.05½

LOS ANGELES—

41-43 water white	.04½	.05

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.b. in bbls.)—

Cylinder Stocks:		
600 Warren E	.21½	.22
600 S.R. unfiltered	.16½	.17
630 S.R. unfiltered	.21	.21½
600 flash, S.R.	.21½	.22
630 flash, S.R.	.25½	.26
Bright Stocks:		
8 color	.23½	.24
6½ plus color in dilution	.23	.23½

NEUTRAL OIL

200-3 color	.30	.30½
150-3 color	.25½	.26

PARAFFIN WAX

NEW YORK (prices per pound)—

123-126 a.m.p.		.04125
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
135-137 a.m.p.		.0550
Crude Scale:		
124-126 w.s.	.0295	.0300
124-126 y.s.	.0265	.0280

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 28, 1937)

East Texas (May 22, 1937)*	$1.35
Van, Tex.†	1.10
Camp Hill, Tex.	1.27
Cass County, Tex.‡	1.25
Talco	.73
Altus and Tipton, Okla.§	1.20
Other fields (see gravity table).	

*All companies. †Humble Oil & Refining Co.; Pure Oil Co. ‡Texas Co. §Gulf Oil Co. Talco by Humble Oil & Refining Co.

West Texas

See gravity table.	
Pecos County*	.91
Pecos shallow†	.81

*Shell Petroleum Corp., Gulf Pipe Line Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

Rocky Mountain States

(Effective January 28, 1937)

Iles, Colo., light*	$1.18
Iles, Colo., heavy*	1.12
Greybull, Wyo.*	1.30
Torchlight, Wyo.*	1.30
Grass Creek, Wyo., light*†	1.30
Grass Creek, Wyo., heavy (Nov. 4, 1936)*†	.62
Hamilton Dome, Wyo. (Nov. 4, 1936)*	.57
Elk Basin, Wyo., light*†	1.30
Frannie, Wyo., heavy*	.62
Frannie, Wyo., light	.82
Hogback, N. Mex.*	1.33
Pondera, Mont. (Jan. 26, 1936)*	1.05
Salt Creek Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.23
Rock Creek, Wyo.†	1.20½
Lea County, N. M. (see West Texas gravity table)	
Artesia, N. Mex.	.90
Maljamar, N. Mex.	.90
Canon City and Florence, Colo.	1.10
Florence, Colo.	.98
Lance Creek, Wyo.	.97
Sunburst, Mont. (June 5, 1936)	1.20
Cat Creek, Mont.	1.40
Cut Bank, Mont.	1.35

*Standard Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Middle Western States

OHIO OIL CO.
(Effective January 28, 1937)

Lima	$1.25
Illinois	1.35
Princeton, Ind.	1.35
Midland, Mich. (July 23, 1937)*	1.27
West Branch, Mich. (July 22, 1937)	1.09
Buckeye (July 23, 1937)	1.24½
Arenac, Mich (July 1, 1937)	1.21
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River	1.42
Kentucky River	1.50
Western Kentucky	1.40

*Posted by Pure Oil Co.

Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal and equal grades. West Branch and Arenac by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Buckeye posted by Simrall Corp. and Pure Oil Co.

Gulf Coast

(January 28, 1937)

Choctaw and Darrow, La. See note below	
Clay Creek, Tex.	$1.00
Garden Island, La.	1.37
Cleveland, Tex.	1.27
Hardin, Tex.	1.15
Lafitte, La.	1.24
Livingston, Tex.	1.27
Welsh, La.	.98
Tepetate (La.) (Jan. 4, 1937)	1.12

Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields take Mirando gravity prices. Jennings, La., 5 cents lower than Gulf Coast prices on each degree. Segno, Texas, takes Gulf Refining Co.'s Gulf Coast prices. Choctaw and Darrow, Louisiana, posted for first time by Standard Oil Co. of Louisiana, start below 21 degrees at 90 cents, with 3-cent differential up to 25 gravity, then 2-cent differential up to 40 and above, $1.36. Effective October 1, 1937, Stanolind Oil & Gas Co. in Evangeline, La., pays 92 cents for below 20 gravity, adding 2 cents for each degree upward to 40 and over, at $1.34.

Southwest Texas

(January 28, 1937)

Pettus	1.37
Salt Flat, Darst Creek, Hilbig, Carroll Clark, Zoboroski	1.09
Luling	1.00
Lytton Springs	1.12

Saxet and Taft take same gravity table as Gulf Coast.

North Louisiana and Arkansas

Smackover, all grades	$ .90
Tullos and Urania	1.02
El Dorado East field	.90
Union County, Ark.	.90
Ouachita County, Ark.	.90

Eastern States

(Prices are 25 cents per bbl. below those posted on September 1)

TIDE WATER ASSOCIATED OIL CO.
(Effective October 12, 1937)

Bradford, Pa.	$2.35
Allegany, N. Y.	2.35

SOUTH PENN OIL CO.
(Effective October 12, 1937)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.35
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.05
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.00
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.85
Corning Grade Oil in Buckeye Pipe Line Co.'s lines	1.27

PENNZOIL CO.
(Effective October 12, 1937)

Pennsylvania Grade Oil in National Transit Lines:	
Group A — Includes Cochran, Franklin, Hamilton and Doolittle districts.	2.35
Group B — Includes Tidioute district.	2.34
Group C — Includes Turkey and Tidioute districts.	2.30
Group D — Includes Bear Creek and Porkey districts.	2.29
Group E — Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	2.26

PURE OIL CO.
(Effective October 12, 1937)

Cabin Creek, W. Va.	2.00
Bradford Hollow, W. Va.	2.00
Kelly Creek, W. Va.	2.00

Canada

Ontario (Sept. 9, 1933)*

Petrolia	$2.10
Oil Springs	2.17
Turner Valley, Alberta province (Dec. 16, 1936):†	
Clear naphtha	$2.60
Discolored naphtha, 65 gravity and higher	2.36
Discolored naphtha and crude oil, 40-40.9 gravity	1.55
Increasing 3 cents for each degree of gravity with top price for 64-64.9 gravity	2.27

These prices delivered field tankage.
*Imperial Oil, Ltd.
†Imperial Oil, Ltd., and Regal Oil & Refining Co. On crude oil alone British American Oil Co. posted above prices on December 9, 1936.

Mexico

Panuco*	$1.24

*In U. S. currency, f.o.b. ship, based on September spot market transactions.

Crude Prices by Gravities

	Oklahoma-Kansas	Oklahoma-Kansas	North and Central Texas	East Central Texas (Mexia district)	North Louisiana-Arkansas	Gray County, Texas	Hutchinson-Carson counties, Texas	Rodessa, Louisiana-Texas and Panola County, Texas	Conroe, Tomball, Raccoon Bend, Deep, Satsuma	Gulf Coast	Gulf Coast	Lea County, N. Mex. West Texas except Pecos County	Mirando district, Texas	Marion County, Texas	Refugio, Greta, Saxet, Taft, Texas	Anahuac, Flour Bluff, Dickson, Turtle Bay	White Castle, Louisiana	Iowa, Louisiana	Cayuga, Texas
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Bel. 18	....	....	....	....	....	....	....	....	....	$.90	....	....	....	....	....	....	....	$.90	....
18-18.9	....	....	....	....	....	....	....	....	....	.92	....	....	....	....	....	....	....	.92	....
19-19.9	....	....	....	....	....	....	....	....	....	.94	....	....	....	....	....	....	.94	.94	....
20-20.9	....	....	....	....	....	....	....	....	....	.96	.95	....	.96	....	.01	....	....	.96	....
21-21.9	....	....	....	....	....	....	....	....	....	.98	.98	....	.98	....	.03	....	.98	.98	....
22-22.9	....	....	....	....	....	....	....	....	....	1.01	1.01	....	1.00	....	.05	....	1.01	1.01	....
23-23.9	....	....	....	....	....	....	....	....	....	1.04	1.04	....	1.02	....	.07	....	1.04	1.04	....
24-24.9	....	....	....	....	....	....	....	....	....	1.07	1.07	....	1.04	....	.09	....	1.07	1.07	....
Bel. 25	....	$.98	....	....	$.90	....	....	$.93	....	....	....	....	....	$.90	....	....	....	....	$.88
25-25.9	....	1.00	....	....	.92	....	....	.95	....	1.10	1.10	$.78	1.06	.92	1.11	....	1.10	1.10	.90
26-26.9	....	1.02	....	....	.94	....	....	.97	....	1.13	1.13	.80	1.08	.94	1.13	....	1.13	1.13	.92
27-27.9	....	1.04	....	....	.96	....	....	.99	....	1.15	1.15	.82	1.10	.96	1.15	....	1.15	1.15	.94
28-28.9	....	1.06	....	....	.98	....	....	1.01	....	1.17	1.17	.84	1.12	.98	1.17	....	1.17	1.17	.96
Bel. 29	$1.06	....	$.96	$1.03	....	....	....	....	1.20	....	....	....	....	....	....	....	....	....	....
29-29.9	1.08	1.08	.98	1.05	1.00	....	....	1.03	1.22	1.19	1.19	.86	1.14	1.00	1.19	....	1.19	1.19	.98
30-30.9	1.10	1.10	1.00	1.07	1.02	....	....	1.05	1.24	1.21	1.21	.88	1.16	1.02	1.21	$1.16	1.21	1.21	1.00
31-31.9	1.12	1.12	1.02	1.09	1.04	....	....	1.07	1.26	1.23	1.23	.90	1.18	1.04	1.23	1.18	1.23	1.23	1.02
32-32.9	1.14	1.14	1.04	1.11	1.06	....	....	1.09	1.28	1.25	1.25	.92	1.20	1.06	1.25	1.20	1.25	1.25	1.04
33-33.9	1.16	1.16	1.06	1.13	1.08	....	....	1.11	1.30	1.27	1.27	.94	1.22	1.08	1.27	1.22	1.27	1.27	1.06
34-34.9	1.18	1.18	1.08	1.15	1.10	....	....	1.13	1.32	1.29	1.29	.96	1.24	1.10	1.29	1.24	1.29	1.29	1.08
Bel. 35	....	....	....	....	....	$.96	$.91	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.20	1.20	1.10	1.17	1.12	.98	.93	1.15	1.34	....	1.31	.98	1.26	1.12	1.31	1.26	1.29	1.29	....
36-36.9	1.22	1.22	1.12	1.19	1.14	1.00	.95	1.17	1.36	....	1.33	1.00	1.28	1.14	1.33	1.28	1.29	1.29	....
37-37.9	1.24	1.24	1.14	1.21	1.16	1.02	.97	1.19	1.38	....	1.35	1.02	1.30	1.16	1.35	1.30	1.29	1.29	....
38-38.9	1.26	1.26	1.16	1.23	1.18	1.04	.99	1.21	1.40	....	1.37	1.04	1.32	1.18	1.37	1.32	1.29	1.29	....
39-39.9	1.28	1.28	1.18	1.25	1.20	1.06	1.01	1.23	1.42	....	1.39	1.06	1.34	1.20	1.39	1.34	1.29	1.29	....
40,over	1.30	1.30	1.20	1.27	1.22	1.08	1.03	1.25	1.44	....	1.41	1.08	1.36	1.22	1.41	1.36	1.29	1.29	....

Column 1—Companies posting are Barnsdall, Bell, Champlin, Continental, Cushing, Derby, Dickey, Eason, El Dorado, Empire, Falcon, Globe, Gulf, Johnson, Kanotex, National, Phillips, White Eagle, Stanolind, Sunray, Texas, Sun, Vickers and Wilcox.
Column 2—Anderson & Prichard, Carter, Cosco, Deep Rock, Magnolia, Mid-Continent, Pure, Rock Island, Shell, Sinclair, Skelly and Tide Water.
Column 3—All purchasers.
Column 4—Humble Oil & Refining Co. and Sinclair Oil Purchasing Co.
Columns 5, 6, 7 and 8—All purchasers.
Column 9—Humble Oil & Refining Co. and Sun Oil Co. Tidewater Oil Co.'s schedule starts at 35 degrees, $1.34 with 2-cent spread up to 40 and over at $1.44. (Raccoon Bend prices are for deep sand oil.)
Column 10—The Texas Co. (Gulf Refining Co. pays same prices up to and including 34 gravity, but continues its 2-cent spread up to 40 and over at $1.41.)
Column 11—Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Sun Oil Co.
Column 12—All purchasers.
Column 13—All purchasers (effective July 6, 1937).
Column 14—Magnolia Petroleum Co.
Column 15—Humble Oil & Refining Co. (effective July 6, 1937).
Column 16—Humble Oil & Refining Co. prices start at 30-30.9 gravity at $1.16 adding 2 cents for each degree upward to and including 40 and over at $1.36.
Columns 17 and 18—Shell Petroleum Corp.
Column 19—Tide Water Oil Co.

Rocky Mountain Runs

Production estimates for week ended October 30:

WYOMING	
Salt Creek	16,640
Big Muddy	1,390
Badger Basin	250
Black Mountain	200
Byron	4,870
Dallar Derby	590
Dutton Creek	50
Elk Basin	30
Frannie	2,510
Garland	2,320
Grass Creek	770
Hamilton dome	250
Hidden dome	340
Hudson	310
LaBarge	1,130
Lance Creek	11,990
Lost Soldier	1,250
Medicine Bow	4,900
Mule Creek	80
Midway	60
Oregon Basin	7,330
Osage	820
Pilot Butte	20
Quealy dome	700
Rock River	2,470
South Jasper	500
Poison Spider	370
Teapot	30
Wertz	310
Total Wyoming	62,480
MONTANA	
Border	150
Cat Creek	580
Cut Bank	10,330
Dry Creek	10
Kevin-Sunburst	5,160
Pondera	1,410
Total Montana	17,640
COLORADO	
Florence	140
Fort Collins and Wellington	240
Iles dome	2,630
Moffatt	450
Orchard	40
Rangely	80
Tow Creek	160
Price	410
Total Colorado	4,150
NEW MEXICO	
Cooper	5,450
Eaves	990
Eunice	27,770
Hardy	1,440
Hobbs	16,450
Jal	1,130
Langlie	2,300
Lynch	680
Lynn	360
Mattix	2,030
Monument	29,420
North Lynch	60
Penrose	3,890
Rhodes	120
Skelly	1,620
South Eunice	2,160
Vacuum	80
Artesia-Maljamar	6,810
Getty	200
Hogback	200
Rattlesnake	770
Table Mesa	100
Total New Mexico	104,030
Total Rocky Mountain region	188,300

Charles J. Jackson, of Madison, president of the Wisconsin Retail Gasoline Dealers and Service Association, which held its annual convention in Wausau Tuesday and Wednesday of this week, said the organization's membership had increased 300 per cent since the last convention.

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1937 High	1937 Low	Week ending Oct. 30 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
114⅞	59	3,800	66½	59	66	Amerada Corp.	788,675	N.P.	50cQ	10-30-37	$2.00	125½	75	80	48½
37	18	11,400	24¼	21	24	Atlantic Refining	2,664,000	$25	25cQ	12-15-37	1.25	35⅛	26⅝	28	20½
43⅜	10⅛	13,700	19¼	13	19	Barber Co.	387,149	$10	75c	12-16-37	.50	38½	21	22½	11¾
35¼	10	32,600	16½	12⅞	16¼	Barnsdall Oil Co.	2,247,974	$5	25cQ	11-1-37	.80	28¼	14⅛	14¾	5⅞
20⅞	4⅝	75,800	9¾	7½	9⅝	Columbia Gas & Elec.	11,610,036	N.P.	20c	5-15-37	.40	23⅜	14	15¾	3⅝
17⅞	7	53,500	11¼	9½	11	Consolidated Oil Corp.	13,919,417	N.P.	20cQ	11-15-37	.80	17¼	11½	12¼	6½
49	24	39,700	36¾	28½	35⅜	Continental Oil of Delaware	4,682,615	$5	50cQ†	9-30-37	1.50	44⅞	28⅛	35	15⅛
17⅝	4¾	38,700	9¼	6⅝	9¾	Houston Oil (new)	1,098,618	$25	..	10-17-30	....	13⅞	6⅜	7	1½
35⅜	14	12,600	23½	18⅛	23⅛	Mid-Continent Petroleum	1,855,912	$10	$1	12-1-37	1.15	30⅞	17¼	20½	9½
34	16⅛	1,600	20	17¾	19¾	Mission Corporation	1,399,345	N.P.	1.00	6-15-37	.45	29⅞	16¾	17¾	10⅝
41⅜	18	16,200	26	19½	25½	National Supply	382,591	$25	....	5-15-31	....	75½	19⅞	20⅞	9
22⅞	9	28,900	14½	12	14	Ohio Oil Co.	6,563,377	N.P.	50cSA	6-15-37	.60	18	12⅛	14¼	9¼
29¾	12⅛	3,100	16¾	12⅛	16½	Pacific Western Oil	1,000,000	N.P.	65c	12-18-36	.65	23½	11¾	14	6¾
4½	1	1,900	1⅞	1⅜	1⅞	Panhandle P. & R.	198,770	N.P.	....	....	....	4¼	1⅜	1⅞	½
64	30⅛	43,100	47¾	38⅛	47¼	Phillips Petroleum	4,449,052	N.P.	75cQ†	12-1-37	2.50	52⅜	38⅛	40	13¾
29⅞	13	11,100	20⅜	17¼	19⅞	Plymouth Oil Co.	1,050,000	$5	35cQ	9-30-37	.90	27¾	11⅞	13	6½
24⅜	8¾	114,200	15	11¼	14½	Pure Oil Co.	3,281,120	N.P.	....	9-1-30	....	24⅞	16	17	5⅞
54⅛	16	7,800	26	19½	25	Seaboard Oil of Delaware	1,224,283	N.P.	25cQ	9-15-37	1.00	44	30½	36⅞	20¾
34¾	15½	10,300	20½	17½	19¾	Shell Union Oil	13,070,625	N.P.	50c	7-15-37	.25	28¼	14¾	16½	5½
105⅜	97	2,100	98⅞	97½	98¼	Shell Union Oil 5½% pfd.	343,500	$100	$1.37½Q	10-1-37	28.87½	127½	102	111	63⅛
4¼	3	100	3	3	3	Simms Petroleum	461,698	$10	75c liq.	11-3-37	2.25 liq.	6¾	3½	18¾	4¾
60⅝	28¼	10,500	40½	32	39½	Skelly Oil	1,006,348	$15	50c	9-30-37	....	47⅜	19½	20½	6⅛
23¼	13	128,500	17¼	15	17⅛	Socony-Vacuum	31,151,071	$15	25cSA	9-15-37	.70	17½	12½	15¾	10⅝
50	28	19,900	34¼	31¼	34	Standard Oil of California	13,014,754	N.P.	45cQ†	9-15-37	1.20	47⅝	35	41⅛	27¾
50	26½	43,300	36¼	33⅛	36¼	Standard Oil (Indiana)	15,196,241	$25	$1Q†	12-15-37	2.40	48½	32¾	33⅜	23
50	30⅝	No sales	..	..	..	Standard Oil of Kansas	134,841	$10	$1	12-26-36	1.00	31	25	32	20
76	42½	65,500	54	47½	53½	Standard Oil of New Jersey	25,856,081	$25	$1.25SA†	12-15-37	2.00	70⅜	51⅛	52⅜	35⅜
77½	54	2,900	57	54	55¼	Sun Oil	2,156,825	N.P.	25cQ	9-15-37	$1 & 6% Sk.	91	70	77	60½
65⅛	34¾	60,900	46⅞	39	46¼	Texas Corp.	10,896,858	$25	50cQ	10-1-37	1.50	55¼	28⅞	30¼	16½
9⅝	2	14,800	4⅜	3½	4¼	Texas Gulf Producing Co.	888,132	N.P.	5c	12-15-36	.05	8⅞	4⅜	4⅜	2½
16⅝	5⅜	16,300	10⅜	7⅜	9⅝	Texas Pacific Coal & Oil	888,237	$10	10c	12-1-37	.25	15¼	7½	9¼	3¼
21⅝	13⅛	19,400	17	14⅝	16⅝	Tide Water Associated	6,288,512	N.P.	35cQ†	9-1-37	.70	21¾	14¾	15⅞	7⅝
28¼	17½	10,700	21¾	20	21¾	Union Oil of California	4,386,070	$25	55cQ†	11-10-37	1.00	28½	20¾	24	14¾
31½	22½	600	24	22¾	24	Union Tank Car Co.	1,200,000	N.P.	40cQ	9-1-37	1.20	31⅝	22⅝	26½	20⅞
6¼	1¾	3,600	3	2⅝	2⅞	Wilcox Oil & Gas	424,839	$5	..	5-10-28	...	5¼	2¾	3⅛	1

*Ex-dividend. †Includes extras.

New York Curb Exchange

1937 High	1937 Low	Week ending Oct. 30 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
21⅜	7	4,700	11½	10	11	Bridgeport Machine Co.	260,000	N.P.	25c	9-30-37	$1.00	21	13¼	14⅛	3¾
51½	42	No sales	..	..	..	Buckeye Pipe Line Co.	200,000	$50	75cQ	12-15-37	3.25	50	39¾	42½	30½
2¾	¾	5,200	1⅛	1	1⅛	Carib Syndicate	799,020	25c	....	....	....	4⅞	1⅞	4¼	1⅝
123	95½	50	100	100	100	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	9-30-37	7.00	124¾	105	157	115
5⅜	1½	37,200	2¼	2	2⅛	Cities Service	37,804,394	N.P.	....	6-1-32	....	7⅜	3	3¼	¾
5½	1½	5,900	2¾	2⅛	2¾	Cosden Petroleum	399,687	$1	....	....	....	4½	1½	1½	¼
38¾	20¼	7,400	26½	23½	25¾	Creole Petroleum	6,974,356	$5	50cSA†	6-10-37	.50	39	19⅞	23¾	10
18⅝	6½	1,500	8⅞	8	8¾	Darby Petroleum	351,390	$5	25cSA	1-15-38	.50	18⅛	9	8⅞	4
8⅜	2¼	5,800	5	3¼	5	Derby Oil & Refining	263,162	N.P.	....	....	....	6¾	1⅞	2	¾
47½	24½	No sales	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	11-1-37	4.00	47½	38½	38	33¼
63½	33	11,800	44½	38¾	44	Gulf Oil Corp.	9,076,202	$25	25cQ	10-1-37	1.50, 100% Stk.	59	36	74⅝	50¼
87	55	3,200	65	60	65	Humble Oil & Refining	8,923,935	N.P.	62½cQ	10-1-37	1.50	80	57	64	44
24¼	14½	8,600	18¾	17¾	18⅝	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	6-1-37	1.25	24½	19¾	22½	15⅝
15	5⅞	500	8	7	8	Indiana Pipe Line	300,000	$10	50cSA	11-15-37	.80	9¾	5½	6⅛	3⅝
39½	23½	12,600	30⅝	28⅝	30½	International Petroleum	14,247,088	N.P.	$1.25†‡	6-1-37	2.50	39⅝	32⅝	39¾	28
15¼	7	12,000	8⅞	7⅛	8⅞	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	9-15-37	.50	15⅜	9⅞	11⅜	4⅜
34	12½	9,200	22¼	17½	21½	Lion Oil Refining	270,000	N.P.	25cQ	10-20-37	.75	17¾	7⅜	8⅛	3½
14¼	5¼	5,200	9	7⅛	8¾	Lone Star Gas	5,382,723	N.P.	20c	8-21-37	.60	14¼	9⅞	10⅞	4½
14⅝	6¼	1,800	8⅛	7½	7½	Midwest Oil Co.	998,444	$10	50c	12-15-37	....	..	..	..	..
7⅞	4⅛	2,500	5¼	5	5	Mountain Producers	1,682,182	$10	30cSA	6-15-37	.60	8⅜	5	5⅜	4⅛
19½	12	3,000	13½	12½	13⅜	National Fuel Gas	3,810,183	N.P.	25cQ	10-15-37	1.00	23	17⅜	20	11¾
12½	7¼	500	8½	8	8½	National Transit	509,000	$12.50	45cSA	6-15-37	.75	15¾	9¼	10⅝	6¾
6⅛	4¼	No sales	..	..	..	New Bradford Oil	1,445,202	$5	18c	9-17-37	.10	4⅝	2⅞	3¼	2
5	1⅛	3,100	1¾	1½	1⅝	New Mexico and Arizona	1,000,000	$1	1c	12-1-36	.01	6⅝	1⅝	2½	1
5⅜	4	No sales	..	..	..	New York Transit	100,000	$5	25cSA	10-15-37	.35	6¼	4¼	4⅞	3
12¾	5¾	100	6¾	6¾	6¾	Northern Pipe Line	120,000	$10	25cSA	12-1-37	.40	9¾	4⅞	8	5¼
9⅝	2¾	57,800	5⅞	4⅛	5½	Pantepec Oil	1,608,700	N.P.	..	....	....	10⅛	3¼	4⅜	1¼
13¾	2	1,400	4	3¼	4	Root Petroleum Co.	336,045	$1	25c	2-1-37	.50	19¼	4½	5	1½
6½	2¼	700	3⅝	3	3⅝	Ryan Consolidated	296,931	N.P.	....	....	....	4¾	1⅞	2½	⅝
56	35	2,200	40½	37¾	40	South Penn Oil	1,000,000	$25	$1.15Q†	9-30-37	2.60	44	32½	34½	21⅝
7¼	3⅞	No sales	..	..	..	Southern Pipe Line	100,000	$10	25cSA	9-1-37	.25	7⅞	3¼	5	3⅞
42	20⅝	No sales	..	..	..	South West Penna. Pipe Lines	35,000	$50	50cQ	10-1-37	13.00	60	44	56	44¼
21⅛	14¾	1,800	18	17⅝	18	Standard Oil of Kentucky	2,604,790	$10	40cQ†	9-15-37	1.35	23⅜	17⅛	24	18
11⅜	8	100	8	8	8	Standard Oil of Nebraska	188,403	$25	25c	3-29-37	.25	14⅝	11	12	7⅞
45	16	1,600	26½	23	26	Standard Oil of Ohio	753,740	$25	25cQ	9-15-37	2.00	40	21¾	23⅝	11½
4⅞	2	9,400	3½	3	3½	Sunray Oil	1,910,119	$1	10c	12-24-37	.10	5	2⅝	2⅞	⅞
7⅝	2	700	4½	4⅜	4½	Texon Oil & Land	336,028	$2	15cQ	9-3-37	.60	9¾	5⅜	6⅞	5

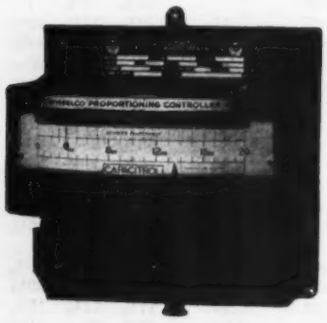
*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Effect of Continuously Variable Fuel Input Gained by Device

The Wheelco proportioning control announced by the Wheelco Instruments Co., 1933 South Halsted Street, Chicago, consists of an electrical device mounted integrally with an indicating pyrometer. It is designed to control fuel-fired or electric heating units which cannot be controlled successfully by the simple two-position or three-position type of controller. It operates in conjunction with simple valving or contacting equipment.



Where continuously variable fuel input is required to maintain constant temperature, eliminating all overshooting or undershooting, the proportionating control is of special value. It achieves the effect of a continuous input variation by varying the ratio of on time to off time in a time cycle of predetermined length. The length of the cycle has been made sufficiently small so that the change in temperature during one time cycle is practically negligible. The fuel input obtains its control and varies as a function of the temperature. In other words, the input decreases as the temperature approaches the desired point. At this point the control automatically functions to proportion the on time to the off time to maintain this desired temperature.

The Wheelco proportioning control provides constant even temperatures regardless of varying heat requirements, overcomes time lag due to slow reaction of furnace temperatures, balances the heat input against the heat required by the work, and all operating functions are entirely electrical.

Bulletins, Booklets and Other Literature for the Trade

A "shooting trip" in the Redwoods of California is described in the latest number of Hot Spots, published by the Lane-Wells Co., Los Angeles, Calif.

The Aluminum Paint Manual, a booklet of 104 pages, announced by the Aluminum Co. of America, Pittsburgh, Pa., describes the characteristics of aluminum paint, methods of application, etc. It constitutes a practical guide-book for persons using aluminum paint.

A booklet devoted to Jelox is offered by the Geo. S. Mepham Corp., East St. Louis, Ill. One chapter covers the use of bentonite in sodium chloride solutions. Another tells about the colloidal behavior of Jelox.

A 24-page catalog, "Sullivan Plus Portable Compressors," describes the two-stage portable air-compressors manufactured by the Sullivan Machinery Co., Michigan City, Ind., and contains specifications and data of value to those concerned with application of air-compressors and air tools to construction and maintenance work.

How Amsco alloy heat- and corrosion-resistant still and furnace parts for refineries help toward steady operation and lower maintenance costs is told in the October number of the Amsco Bulletin, published by the American Manganese Steel Division, Chicago Heights, Ill.

Three new pieces of literature have been released by the Emsco Derrick & Equipment Co., Los Angeles, Calif. Bulletin 85-E is devoted to oil-field machinery, bulletin 24-DB to "armored" steel plungers, and bulletin 86-E to power slushpumps.

In the October issue of "Between Calls" the Walter O'Bannon Co., Tulsa, announces that it has adopted a new color scheme for O'Bannon cup containers. Containers of bright red, blended with yellow, will be used for hard cups; green for medium cups, and blue for soft.

To Make Franklin Engines

Air-Cooled Motors Corp., Syracuse, N. Y., is the successor to the Doman-Marks Engine Co., Inc., and it has acquired the name, trademark and patents of the Franklin Automobile Co. It will manufacture the Franklin air-cooled heavy-duty engines designed and perfected by the former engineering chiefs of the Franklin Motor Co. to meet the requirements of the industrial power market.

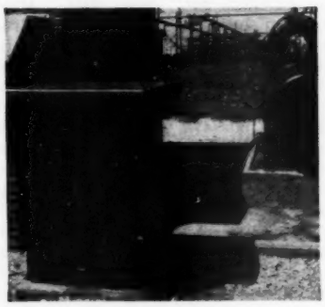
Bullplugs and Swaged Nipples Protected Against Corrosion

W. C. Norris, Manufacturer, Inc., Tulsa, announces that all plugplugs and swaged nipples now coming through the factory are finished by a special electroplating process which the company calls "Norrisizing." It is claimed that fittings so treated are impervious to corrosion, that swaged nipples and bullplugs remain bright throughout their useful life and that the cost is no more than that of the conventional painted articles.

All Norris swaged nipples and bullplugs are made from new seamless pipe with size, weight, and threads per inch labeled on each fitting. They are packed in cartons to insure delivery to customers in perfect condition.

New Westinghouse Linestarter Is for Hazardous Locations

Designed primarily to meet the requirements of the petroleum and chemical industries and other hazardous applications, the Westinghouse high-voltage type DNO linestarters are completely oil-immersed and corrosion-resisting with high interrupting capacity. For starting squirrel-cage and wound-rotor induction motors, these linestarters are available for 2,200- or 4,600-volt service. For three-pole, 60-, 50-, 40- or 25-cycle power their maximum ratings are 700 horsepower for 2,200 volts and 1,250 horsepower for 4,600 volts.



The starter is available either for floor mounting, in which case access to the starter is gained by removing the cover, disconnecting the leads, and lifting the internal assembly out of the tank; or with a structural mounting frame, which supports the unit off the floor and provides for lowering the tank from the internal assembly.

The internal assembly, the same for both the floor-mounted and frame-mounted starters, consists essentially of the main switch, with its operating mechanism and auxiliaries; an operating transformer, current transformers and overload relays. The starter is operated by a special two-button oil-immersed pushbutton station. Being weatherproof, these linestarters may be mounted outdoors, saving building costs.

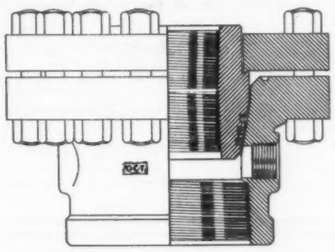
Schraub Made Sales Manager

Lester G. Schraub, for nine years manager of sales for the wire division of the Sheffield Steel Corp., Kansas City, Mo., has been made general sales manager of the Union Wire Rope Corp., of Kansas City. The Union product is distributed throughout the wire-rope using industries of the United States, Canada, Mexico, South America and the Orient. Mr. Schraub will head a sales and distributing organization which blankets the United States, with a special division to cover the petroleum industry, and which reaches foreign countries through a special representative in Mexico and through the Lucey Export Corp. of New York, which operates throughout the world.

Mr. Schraub has had 23 years' experience in the steel and wire business. He served 14 years with the Keystone Steel & Wire Co., Peoria, Ill., and was assistant sales manager when he accepted the new post with Sheffield. He saw 13 months of service in France in the World War.

New Type Casinghead Permits Operations Under Pressure

The type K-2 O-C-T casinghead, developed by the Oil Center Tool Co., Houston, Tex., is a full-opening head designed for use with blowout-preventer equipment to permit drilling and running and landing casing under pressure. The casing is suspended from a forged-steel hanger, which passes through the blowout-preventer equipment and seats in the bowl of the body. After the cement has set, the blowout-preventer equipment is removed and a solid-flange ring bolts down on top of a lip on the hanger to hold the hanger in the head. The casinghead for the inner string, or tubing-head, as the case may be, screws into the top of the hanger. This casinghead is available in test pressures ranging from 4,000 to 10,000 pounds.



Seat and Disc of 500-Brinnell Hardness Used in New Valve

A new bronze valve of exceptional service characteristics, employing a seat ring and disc of special stainless steel with a minimum hardness of 500 Brinnell, has just been introduced by the Walworth Co., New York, N. Y. In actual service, closing these valves on boiler scale or similar foreign particles present in the line will not damage them in any way.

Designed for general service on steam, air, oil, water and gas where conditions are exceptionally severe, these union bonnet valves may be had in globe and angle types, in sizes from one-quarter inch to 2-inch. Valve ratings are 350 pounds W.S.P. and 550° F. The design has also included extra-large stems and extra-long stem-thread contact, giving the advantage of greatly increased valve life, as well as minimum thread wear.

Here and There With Men Who Manufacture Equipment

N. R. Crawford, manager of Dowell, Inc., and A. P. Beutel, assistant general manager of the Dow Chemical Co., have returned from Mexico City and Tampico, Mexico, where they inspected properties of Dowell Sociedad Anomina, the Mexican subsidiary of Dow Chemical Co.

K. S. Richards, representing the Atlas Imperial Diesel Engine Co., will move his main office from Wichita, Kans., to Fort Worth, Tex., November 1. He will maintain warehouse stocks or an office in Houston, Wichita, Oklahoma City and Tulsa.

The Metallizing Engineering Co., Inc., announces the following sales and engineering staff promotions: W. C. Reid, formerly Midwestern manager, appointed vice president in charge of sales, with headquarters in New York; Walter B Meyer, formerly manager of the St. Louis office, appointed manager of the Chicago office; Alan B. Geuder, formerly salesman in the Chicago office, succeeds Mr. Meyer.

The Imperial Belting Co., Chicago, has acquired the services of C. H. Monnette, of Tulsa, to represent it in the sale of O&G belting in Kansas and Oklahoma. Mr. Monnette has operated in this territory, principally in the sale of belting, for many years and will act in conjunction with Imperial's distributor, the Bovaird Supply Co.

A. R. Johnson has been appointed manager of the merchandising sales division of Cutler-Hammer, Inc., Milwaukee, Wis., manufacturer of electric-control apparatus. He will supervise all distributor activities. E. T. Rees has been made manager of the branch sales office in Indianapolis, Ind.

Modern Refractory Practice

A volume which ranks as an authoritative manual rather than as a piece of sales literature is the new edition of "Modern Refractory Practice," published by the Harbison-Walker Refractories Co., Pittsburgh, Pa., which has fire-clay brick plants in Pennsylvania, Ohio, Kentucky, Alabama and Missouri. Its 296 pages, with many of the hundreds of illustrations in color, contain a rich fund of information on selection of the right refractory in the construction of furnaces, oil-still settings, boiler settings, oil-burner installations, etc. Furnace layouts have been redesigned in consultation with engineers of wide experience, and the text has been revised and enlarged. New tables and methods of computation have been added. The work is of high practical value to all interested in the best application of refractories.

Oil Executive Joins O-I Can Co.

J. F. Adams, formerly vice president in charge of sales of the Barnsdall Oil Co., Tulsa, has accepted a position as divisional sales manager of the Owens-Illinois Can Co., with headquarters in Toledo, Ohio.

Mr. Adams, who was in charge of domestic and foreign sales for Barnsdall, with offices in both Tulsa and New York City, will contact users of oil, grease, paint and varnish cans. Prior to his affiliation with Barnsdall, Mr. Adams was with the Wadhams Oil Co., and has been directly connected with the oil industry for years.

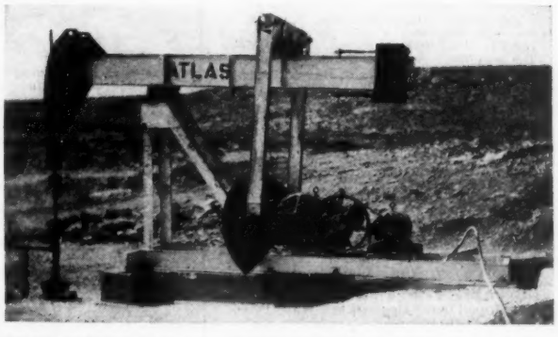
Mudpump Gauge Is Accurate Under Difficult Conditions

The Martin-Decker Corp. has developed a unitized mudpump gauge which is especially strong and compact. It is engineered to give smooth, accurate readings of slushpump pressures under all conditions. It is said to be unaffected by rapidly surging pressures or by circulating fluids, and its mechanism is constructed to withstand the extreme vibration of the slushpump. It contains all the features of the Martin-Decker individual mudpump gauge, but does not require the use of tubing or fittings to connect it. According to the manufacturers, it is as easy to install as a bullplug.

This new gauge embodies a patented diaphragm unit, a patented pulsation damper, and the latest-type indicator gauge, all unitized into one case. The diaphragm unit is built and tested for a 5,000-pound working pressure, and by means of a flexible separator completely seals the mud out of the gauge mechanism. The gauge and damper system is filled with a noncorrosive, non-freezing fluid to assure accurate pressure readings and give complete protection to the gauge mechanism. The built-in pulsation damper has an infinite range of adjustments which give smooth readings unaffected by pressure surges, yet allow instant sensitivity to actual pressure changes. This element not only assures complete readability of the gauge-hand at all times, but protects the mechanism from the wear and tear of constantly pulsating pressures.

ATLAS OFFERS PUMPING UNIT FOR SHALLOW WELLS

The Atlas pumping unit No. 507, for pumping shallow wells, is an addition to the Atlas Supply Co.'s line, designed for comparatively shallow wells. The design and welded construction of the larger units are embodied in this smaller model.



A double-reduction, helical-geared reducer, with an A.P.I. rating of 5 hp. at 20 s.p.m. and a peak torque rating of 25,000 inch pounds is used. The reduction ratio is 31.8 to 1. The twin cranks have strokes of 14, 21.5 and 29 inches. Both rotary and beam-type counterbalance weights are used, and weights may be added at either point. This makes the machine unusually adaptable to a wide range of speeds. The 12-inch walking beam has an A.P.I. rating of 6,375 pounds. The removable horsehead allows ample well clearance for servicing.

The extended base illustrated is standard, making the machine suitable for either electric motor or multicylinder engine prime mover.

Oil Man's Calendar

1938

January

13—Oklahoma City, Independent Oil Jobbers Association of Oklahoma.

17-21—Cleveland, Ohio, American Road Builders Association.

24-25—Minot, N. D., Northwest Petroleum Association, North Dakota Division.

27-28—Minneapolis, Minn., Northwest Petroleum Association, Minnesota Division, Hotel Radisson.

February

(?)—Louisville, Ky., Kentucky Petroleum Marketers Association.

(?)—Columbus, Ohio, Ohio Petroleum Marketers Association.

March

7—Rochester, N. Y., American Society for Testing Materials, Spring Regional Meeting and Group Committee Meetings.

16-8—New Orleans, twenty-third annual meeting, American Association of Petroleum Geologists, Roosevelt Hotel.

April

13-15—Cleveland, Ohio, National Petroleum Association.

13-15—Houston, Tex., Petroleum Industry Electrical Association.

17-21—Dallas, Tex., American Chemical Society.

20-22—Buffalo, N. Y., American Institute Mining and Metallurgical Engineers, Open Hearth Conference.

November

8-12—Chicago, American Petroleum Institute, Eighteenth Annual meeting, Stevens Hotel.

16—New York, Oil Trades Association of New York.

19—Tulsa, Mid-Continent Oil and Gas Association membership meeting, Tulsa Club.

December

6—Memphis, Tenn., National Asphalt Congress.

6-10—New York, American Society of Mechanical Engineers.

6-11—New York, Exposition of Chemical Industries, Grand Central Palace.

7-9—Omaha, Neb., Nebraska Petroleum Marketers, Inc.

8-10—Flint, Mich., S.A.E. National Production Meeting.

14—Tulsa, annual meeting of directors of Mid-Continent Oil and Gas Association.

CLASSIFIED ADVERTISING

Leases and Drilling Blocks

New Texas Oil and Gas Leases. Large or small tracts for brokers and salesmen. State requirements. H. H. WHITE, P.O. Box 674, San Antonio, Texas.

SECURITY ABSTRACT COMPANY
El Dorado, Arkansas
Fee, Lease & Mineral Ownership on short notice. Ownership maps.

ILLINOIS

A complete weekly report on Illinois operations.
One month.....$5.00
Six months.....$25.00
Sample report on request.
OIL NEWS SERVICE
P. O. Box 146 Flora, Illinois

ARKANSAS
Does not have any production (proration) restrictions. The opportunity for quick "payouts" is obvious. Come here and investigate royalty and lease opportunities.
WILLIAM MONROE LAYTON
P. O. Box 411 Texarkana, Ark.

CAN FIND any oil structure that will produce when penetrated. P. O. Box 303, Tonkawa, Oklahoma.

New Mexico OIL LEASES WHOLESALE
40 acres at a time.
Roy G. Barton, Clovis, New Mexico

Specializing leases twenty acres up dollar acre, East Tex., La., S. Ark. Owners—Attorney, Box 1122, Little Rock, Arkansas

WE ARE interested in drilling propositions on proven acreage. If you have any such acreage please submit to Box H-994, The Oil and Gas Journal, Tulsa, Okla.

Illinois Oil and Gas Leases
J. R. WINN, REAL ESTATE OFFICE
Mt. Vernon, Illinois.

HAVE best looking undeveloped quarter in Greenwood Co., Kansas. Hundred barrel well likely. Half interest in same for money to drill thereon. Will put up sufficient interest in following to protect investment. 400 acres with new Bartlesville well. 210 acres new Bartlesville well, and $5000.00 material. T. G. GEBHART, 3728 Edgemont Place, Wichita, Kansas.

I HAVE two block of leases which I will sell for a drilling contract to 3500 feet, said leases located in Hamilton County, Illinois. If interested write or call on George W. Hogan, Jr., McLeansboro, Illinois.

WANTED—Cable driller and rig for development by land owners. By contract, footage or share. Box 127, Lakewood, Ill.

FOR SALE—LEASES and Royalties on Alamo Structure, Huerfano County, Colo. Proven gas. Deep test for oil now drilling by Pressey interests. Pay off on gas assured and oil offers chance for big money. Buyers or dealers write C. H. RADFORD, Box 614, Pueblo, Colorado.

FOR SALE — Large spread leases and non-developed royalties; Okla., Kan., Texas. 508 Ritz Bldg., Phone 2-0156, Tulsa.

THREE PROVEN LOCATIONS to drill, 1900 feet, Branyon Field, Caldwell County, Texas. Allowable 75 bbls. per day. Will give one half interest for immediate development. Address Box J-105, The Oil and Gas Journal, Tulsa, Oklahoma.

Leases and Drilling Blocks

ONE HUNDRED SIXTY ACRES
In heart of Clay City-Noble, Illinois pool, close to production. Want action and over ride. Fee Holder. Box J-122, The Oil and Gas Journal, Tulsa, Oklahoma.

FOR SALE Oil producing leases with many locations yet to drill, leases for sale near production and wildcat leases for drilling contracts.
W. P. HARLEY
Bowling Green, Ky.

LARGE drilling blocks, gas well, showings. Royalty, leases, sale, trade, Concordia, Tensas, Catahoula Parishes. JOHN DALE, Vidalia, Louisiana.

FRIO COUNTY—TEXAS
Oil and Gas Lease for Sale by Owner

5700 acres of land in Frio County, Texas, located near center of Amerada Block with Gas Well, making distillate and some oil, drilled near center of this block. Will lease all or part of this tract. Part cash, balance oil payment.
Write FRANK DOERING, Temple, Texas.

OWN 2,000 acres N. Pittsburg, Atoka Cos., Okla. 40 to 1,000 A. tracts, lease, royalty or land $5 to $25 per A. ⅛ cash, ⅛ oil. Townsite on 2 RRS. near production. J. E. CAVANAGH, Baker, Oregon.

1,000 ACRES GIVEN FREE for a Niagara test well, Southern Vigo Co., Ind. Other acreage. Jesse Allen Pimento, Ind.

ILLINOIS—Investors and owners; before you buy, sell or drill acreage, write Research Service, 423 Cuyahoga Building, Cleveland, Ohio.

Leases and Drilling Blocks

FOR SALE — OIL PRODUCING lease with more locations to drill, property is near a large proven field in Kansas. If interested address Box J-123, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED—Producing Eastern Oil lease for $20,000 cash. Write full information, Box 7342 Oakland, Pittsburgh, Penna.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Mailing Lists

ROYALTY INVESTORS, by deed. Speculators in low priced leases. Both by states. Oil Industry Mailing List Co., Tulsa Loan Building, Tulsa, Oklahoma.

Help Wanted

PUMP and Equipment Salesman, Engineering education desirable. Man with practical experience will be considered. Age limit 45 years. Write fully record of education, experience, and give references. Excellent opportunity for right man. Address Box J-114, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED — Young man between the ages of 25 and 35 with oil country experience as salesman for old established oil country material manufacturer. Apply in own handwriting giving complete details of experience and references. Address Box J-121, The Oil and Gas Journal, Tulsa, Oklahoma.

Patent Attorneys

JACK A. SCHLEY
PATENT LAWYER
Patents Obtained — infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas. 2014 Second Nat'l. Bank Bldg., Houston. 707 Insurance Building, San Antonio. 433 Munsey Building, Washington, D. C. Address any of these offices.

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to any one, send for blank form:
"Evidence of Conception."
Instructions "How to Establish Your Rights" and complete information FREE
LANCASTER, ALLWINE & ROMMEL
418 Bowen Building,
Washington, D. C.

PATENTS SECURED. Low cost. Reasonable Terms. 72-page book and advice free. Reg. Pat. Atty. L. F. Randolph, Dept. 748, Washington, D. C.

Situations Wanted

AVAILABLE OCTOBER 25, 1937: Experienced refinery operators including foremen, stillmen, firemen, controlmen, boiler firemen, treaters, testers, pipe fitters, and compression plant gas operators. Address Box J-101, The Oil and Gas Journal, Tulsa, Oklahoma.

WANT TO REPRESENT good reliable oil company in Texas as to buying leases or production or would consider good independent operator. Have had years of experience in land and lease buying. Can give best of reference by companies and banks. Write Box 232, Jacksboro, Texas.

ELECTRICAL ENGINEER — 18 years' experience, now employed by major oil Co. 12 years, age 37, desire change. Good references as to character and ability. Foreign position considered. Address Box J-100, The Oil and Gas Journal, Tulsa, Okla.

POSITION as Landis and B&K Pipe Threading Machine Operator. Long experience. Best references. A. R. Bankston, Depew, Oklahoma.

EXPERIENCED oil equipment salesman, wide acquaintance, good refs. furnished. Salary or com. P. O. Box 1183, Tulsa, Okla.

EXPERIENCED chemist-operator, refining and natural gasoline, employed, desires better connection, U. S. or foreign. Technical college education, good references. Address Box J-110, The Oil and Gas Journal, Tulsa, Oklahoma.

PRODUCTION Supt., Graduate Engr., 10 yrs. experience in flowing, gas lift, pumping, drilling. Operating in Okla. wishes to move to Texas. Write Box J-120, The Oil and Gas Journal, Tulsa, Oklahoma.

Financing

CAPITAL raised for development of Oil and Mining properties. Delaware Charters. J. B. Murrow, 299 Broadway, New York.

CAPITAL SEEKERS—Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*
1 Inch	*13 times*	*4.50 per inch*
1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

CLASSIFIED

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma